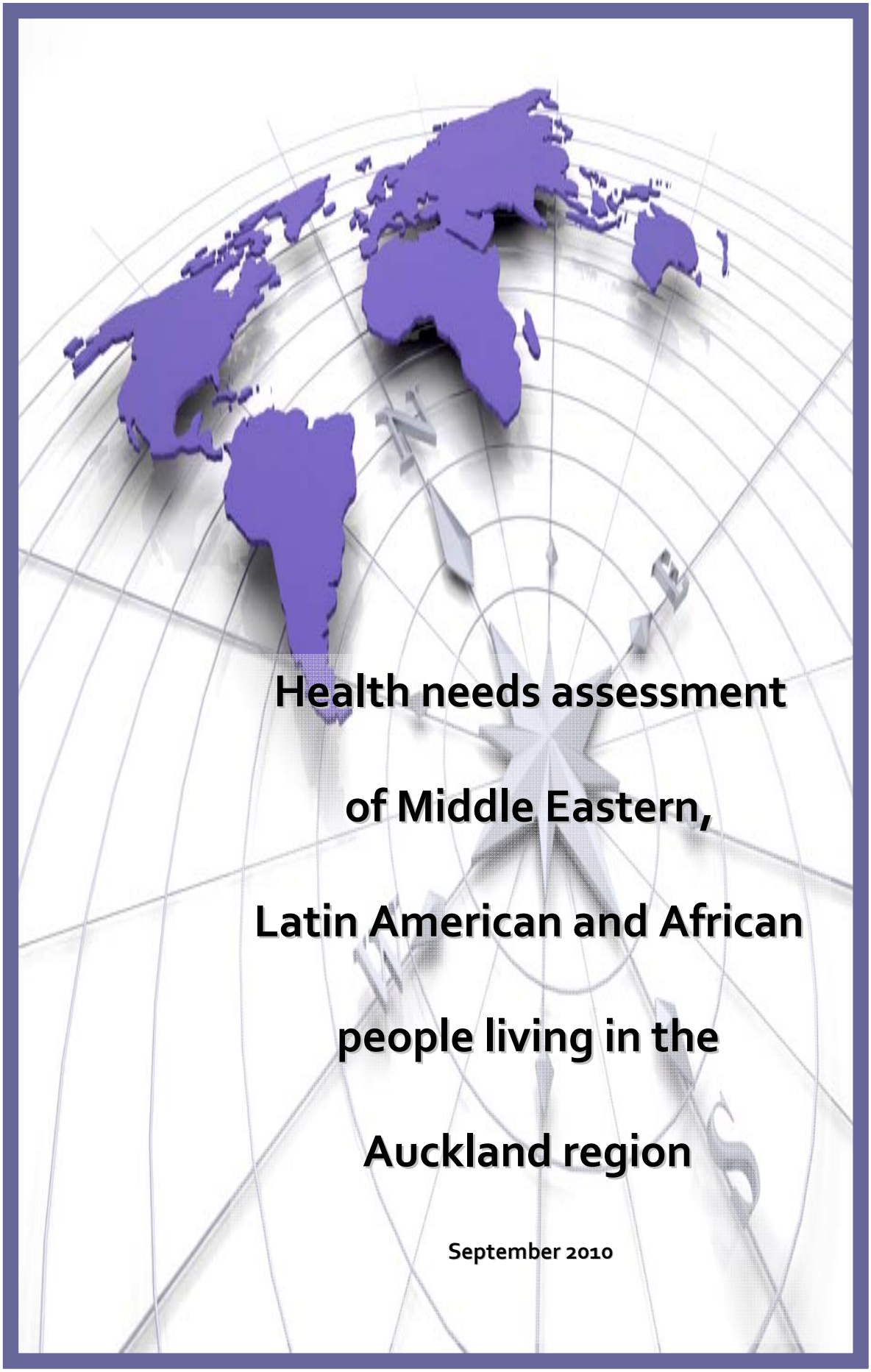

# Health needs assessment of Middle Eastern, Latin American and African people living in the Auckland region

September 2010

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# Abbreviations

**ADHB:** Auckland District Health Board
**AIDS:** Acquired Immunodeficiency Syndrome
**ARPHS:** Auckland Regional Public Health Services
**ASH:** Ambulatory Sensitive Hospitalisations
**BDM:** Births, Deaths and Marriages
**BSA:** Breast Screening Aotearoa
**CABG:** Coronary Artery Bypass Graft
**CHF:** Congestive Heart Failure
**CI:** Confidence Interval
**CMDHB:** Counties Manukau District Health Board
**COPD:** Chronic Obstructive Pulmonary Disease
**CVD:** Cardiovascular disease
**DHB:** District Health Board
**DNA:** Did Not Attend (usually refers to outpatient clinics)
**ED:** Emergency Department
**ENT:** Ear, Nose and Throat Services (also known as ORL: Otorhinolaryngology)
**FGM:** Female Genital Mutilation
**HDIU:** Health and Disability Intelligence Unit, Ministry of Health
**HIV:** Human Immunodeficiency Virus
**HNA:** Health Needs Assessment
**HSP:** Health service provider
**ICD:** International Classification of Diseases (New Zealand has been using Version 10 since 2000)
**IHD:** Ischaemic Heart Disease
**LBW:** Low Birth weight (<2500grams)
**LE:** Life expectancy
**LMC:** Lead Maternity Carer
**MELAA:** Middle Eastern, Latin American and African (ethnicities)
**MI:** Myocardial infarction
**MOH:** Ministry of Health
**MRRC:** Mangere Refugee Resettlement Centre (MRRC)
**NA:** Not applicable
**NCSP:** National Cervical Screening Programme
**NDSA:** Northern DHBs Support Agency
**NHI:** National Health Index
**NIR:** National Immunisation Register
**NMDS:** National Minimum Data Set
**NZ:** New Zealand
**NZAF:** New Zealand AIDS Foundation
**NZDep:** New Zealand Deprivation Index
**NZHIS:** New Zealand Health Information Services
**NZHS:** New Zealand Health Survey
**NZHT:** New Zealand Health Tracker
**PAH:** Potentially Avoidable Hospitalisations
**PAM:** Potentially Avoidable Mortality
**PHO:** Primary Health Organisation
**RASNZ:** Refugees as Survivors New Zealand
**SMR:** Standardised mortality rate
**SNZ:** Statistics New Zealand
**TA:** Territorial Authority
**TFR:** Total Fertility Rate
**THJR:** Total Hip Joint Replacement
**TKJR:** Total Knee Joint Replacement
**TOP:** Termination of Pregnancy

**UNHCR:** United Nations High Commissioner for Refugees.
**WDHB:** Waitemata District Health Board
**WHO:** World Health Organization

# Glossary

| | |
|---|---|
| **Cardiovascular diseases (CVD):** | A group of diseases that affect the circulatory system of the human body and include coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease and venous thrombo-embolic disease. |
| **Census Estimated Resident population:** | The Census estimated resident population of a given area is an estimate of all people who usually live in that area at a given date. It includes all residents of that area present in New Zealand and counted by the census (census usually resident population count), residents who are temporarily overseas (who are not included in the census), and an adjustment for residents missed or counted more than once by the census (net census undercount). Visitors from overseas are excluded. |
| **Census Usually Resident population:** | The Census usually resident population count of New Zealand is all people counted in New Zealand on census night, excluding overseas visitors and New Zealand residents temporarily overseas. |
| **Lead Maternity carer (LMC):** | The LMC is a term used to identify the primary health service provider for the maternity care of a pregnant woman. |
| **New Zealand Health Tracker Project:** | The New Zealand Health Tracker Project is a project run by the Health & Disability Intelligence Unit in the Health & Disability Systems Strategy Directorate,<br>Ministry of Health. |
| **NMDS:** | The National Minimum Data Set records all patient data from public hospitals in New Zealand. |
| **Nominal dollar value:** | The nominal dollar value is the estimated total subsidies that would have been paid to laboratories, if they were not bulk funded. |
| **Not elsewhere classified (nec):** | A 'not elsewhere classified' (nec) ethnic group category contains ethnicity responses that are infrequent or unanticipated. |
| **Not further defined (nfd):** | A 'not further defined' (nfd) ethnic group category contains responses that are not specific ethnic group responses but are able to be placed in a broader category in the ethnicity classification. For example, Continental European, African |
| **NZDep:** | The New Zealand Deprivation Index is a small area level of socio-economic status derived from NZ Census variables. |

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# Executive Summary

## Introduction

The Middle Eastern, Latin American or African (MELAA) ethnicity grouping consists of extremely diverse groups with dissimilar cultures, religions and backgrounds. In 2006, 1% of the New Zealand population identified as MELAA and half of them lived in Auckland. Today, 28,637 people in Auckland identify as being MELAA; approximately 14,000 are Middle Eastern, 3000 are Latin American and 11,000 are African. This group is one of the fastest growing population groups and has unique health needs not entirely met by mainstream health services.

## Middle Eastern people

**Demography and socioeconomic determinants**
Middle Eastern people are the largest of the MELAA groups in Auckland. Since 1994, refugees from Iran and Iraq have formed the largest population of New Zealand's refugee intake and overall they make up the largest Middle Eastern population in Auckland. 50% identify as Muslims and 30% as Christians. Middle Eastern people have:

- a young population, with a large proportion of children
- the largest proportion of people who have lived longer in New Zealand compared with other MELAA groups
- the greatest proportion of people who are not conversant in English (11%); 50% spoke Arabic
- a greater proportion of people living in high deprivation areas and are more likely to live in crowded houses, compared with Europeans
- a higher unemployment rate, a higher percentage of people on a benefit and a lower mean income, despite having similar qualifications to Europeans.

**Utilisation of health services and health conditions**
Middle Eastern people have:

- a higher rate of ambulatory sensitive hospitalisations (ASH) and emergency department (ED) utilisation than Others[a], despite having a high primary health organisation (PHO) enrolled population
- higher rates of access to some surgical interventions including angioplasty and coronary artery bypass graft (CABG) operations, compared with Others
- a lower utilisation rate of secondary mental health services but a higher percentage of people then needing acute inpatient admission at contact compared with Others
- the lowest coverage for cervical screening of all compared ethnicities (in women)
- a higher prevalence of cardiovascular disease (CVD) and diabetes than Europeans and other MELAA groups; also have higher rate of deliveries complicated by diabetes than Others
- a similar proportion of 'regular smokers' as Europeans
- the highest rate of hospitalisations from dental conditions, the highest proportion of children with caries and the highest mean number of diseased, filled or missing teeth in children of all compared ethnicities
- higher rates of hospitalisations from respiratory diseases (asthma, pneumonia and bronchiolitis) than Others
- the lowest proportion of babies who were fully/exclusively breastfed (at each milestone age)
- a higher rate of termination of pregnancy than Others in women aged ≥30 years.

**Unmet needs**
Middle Eastern people need:

- targeted diabetes and CVD preventive strategies within mainstream services- CVD modifiable risk factors that should be reduced include smoking prevalence
- better access to primary oral health services in adults and children

[a] Others refers to all non MELAA, non Maori and non Pacific people used as a comparison population.

- effective culturally appropriate antenatal and family planning education
- *improved use* of primary health services to decrease ASH and ED utilisation
- better access and earlier engagement with mental health services
- to have improved cervical screening coverage.

## African people

**Demography and socioeconomic determinants**

African people are the second largest MELAA group in Auckland. Similar to Middle Eastern people, they initially came to New Zealand as refugees from the late 1980s (predominantly from the Horn of Africa). By the early 2000s, the majority came as migrants from South Africa and Zimbabwe. As these two ethnicities are classified as 'European' in New Zealand, Ethiopians and Somalis are the largest identifiable African groups in Auckland. Most Africans identify as Christians (65%). African people:

- are a relatively young population compared with Europeans
- have the greatest proportion of people living in the most deprived areas within the MELAA group and the greatest disparity in deprivation distribution compared with Europeans
- may live in more crowded circumstances compared with all other ethnicities; they have the largest proportion of people with ≥ 6 residents per household and the lowest proportion of people living in houses with ≥4 bedrooms
- have the highest proportion of one parent households of all compared ethnicities
- have similar school qualifications to Europeans but a higher unemployment rate, lower mean annual income and a higher proportion of people on the unemployment benefit.

**Utilisation of health services and health conditions**

African people have:

- higher rates of PHO enrolment and lower rates of ASH and ED utilisation than Others
- a lower than expected proportion of people with a community services card (CSC)
- the lowest breast cancer screening coverage of all compared ethnicities and a much lower unadjusted cervical screening coverage than Europeans (in women)
- a higher proportion of patients who did not attend (DNA) specialist outpatient clinics than Europeans in all three Auckland DHBs
- a higher cost of dispensed pharmaceuticals per person from age 10 to 59 years (due to HIV medications) but a lower value of nominal costs per person for laboratory tests compared with Others
- a reduced utilisation rate of secondary mental health services but a higher proportion needing acute inpatient admission at contact compared with Others
- a lower prevalence of CVD but a higher prevalence of diabetes compared with Europeans
- a much higher rate of hospitalisations from respiratory diseases (asthma, pneumonia and bronchiolitis) than Others
- the second highest proportion of people diagnosed with HIV and AIDS compared with other all other ethnicities, after Europeans- African women had the highest proportion diagnosed with HIV/AIDS of all ethnicities (in women)
- the highest hospitalisation rate for tuberculosis
- a higher rate of termination of pregnancies and a higher hospitalisation rate from sexually transmitted infections than Others (in women).

**Unmet needs**

The African population in Auckland needs:

- better education and health promotion on sexual health, family planning and antenatal care
- improved access and earlier engagement with secondary mental health services
- better access to oral health services (children)
- improved access to breast cancer and cervical cancer screening (women)
- targeted diabetes education and prevention strategies

## Latin American people

**Demography**

Latin American people make up the smallest proportion of the MELAA group. They initially came to New Zealand as part of the mid 19th century's population of gold seekers. Chilean refugees arrived in the 1970s but by the 2000s, voluntary migrants from Brazil made up the largest Latin American population, most coming as students and working holiday visitors. Latin Americans had the highest PHO enrolment growth compared with other MELAA ethnicities from 2006 to 2010.The majority are Christians (70%) and are mainly Catholic. Latin American people have:

- a more mobile and younger population (consisting mainly of 20-34 year olds) than Europeans
- the largest proportion of people with post school qualifications of all compared ethnicities but had a higher unemployment rate and a lower mean income than Europeans.

**Utilisation of health services and health conditions**

Latin Americans have:

- had the greatest average annual increase in PHO enrolment between 2006 and 2010
- the highest rate of ED utilisation of all compared ethnicities, but lower ASH rates than Others
- had higher nominal costs claimed per person for laboratory testing in all age groups compared with Others
- a lower coverage for unadjusted cervical screening than Europeans (in women)
- a higher rate of utilisation of secondary mental health and addiction services than all compared ethnicities
- a lower prevalence of CVD but a higher prevalence of diabetes than Europeans
- higher rates of hospitalisations from respiratory illnesses (asthma, pneumonia and bronchiolitis) than Others
- the highest rate of hospitalisations from kidney and urine infections of all compared ethnicities
- a higher percentage of assisted deliveries and Caesarean sections compared with Others ( in women)
- had a hospitalisation rate almost three times the rate of Others for ectopic pregnancies
- the highest rate for teenage deliveries, a high rate of termination of pregnancies in teenagers and the highest rate of hospitalisations from sexually transmitted infections (in women), of all compared ethnicities.

**Unmet needs**

The Latin American population needs:

- better sexual health and family planning education with an emphasis on the use of condoms
- better education on asthma prevention, but it is unclear why they have higher rates than Others from respiratory conditions
- improved coverage for cervical screening (in women)
- better monitoring of diabetes prevalence for this community.

## Findings from health service provider (HSP) interviews

- Key concerns around the health needs of the MELAA population included the rising prevalence of diabetes and heart disease, the changes in diet, nutrition and physical activity and social issues such as isolation and poverty.
- Key cultural differences noted in these communities included the importance of faith and family engagement in health, the differences in gender roles and the varying perceptions of illness and disability.
- The main barriers to health care provision was language and communication difficulties, health illiteracy, cost of health care, the lack of cultural understanding by HSPs and the lack of trust and fear of Western health care models.
- Enhancers to healthcare include having HSPs that understand their backgrounds, the appropriate use of interpreters, having targeted services, engaging with religious leaders and communities and providing well coordinated services.
- Areas of unmet needs included:
    - antenatal education
    - health information in a variety of languages

- cultural competency training for HSPs
- a list of relevant services that support MELAA communities
- greater coordination between services
- engagement with secondary mental health services
- culturally appropriate health education on diabetes and CVD
- opportunities for community development
- availability of face-to-face interpreter services
- diversifying the health work force.

## Recommendations

Actions that should be considered by the three Auckland DHBs include:

- supporting HSPs meet the needs of MELAA patients
  - working with primary care providers on ways to reduce/subsidise prescription and consultation costs and provide longer initial consultation times
  - increase and promote cultural competency education sessions
  - GPs need to be supported on ways to screen and treat patients with mental health conditions in a culturally sensitive way
- providing targeted services for MELAA ethnicities within mainstream health services (including raising community awareness, education and health promotion), especially around:
  - CVD and diabetes prevention, screening and self management (especially for Middle Eastern people)
  - cervical and breast screening services (especially for African and Middle Eastern women)
  - antenatal education classes (especially for African and Middle Eastern communities)
  - family planning and contraception education (especially for African and Latin American communities)
  - community oral health services (especially for Middle Eastern people)
- improving interpreter services ( to overcome language and cultural barriers) by increasing:
  - access by widening the type of HSP that can use free interpreter services
  - the availability of face- to- face interpreter services
  - the awareness of the benefits of using interpreters in primary care to HSPs
- enhancing regional collaboration and streamlining of services by having:
  - a regularly updated list of all MELAA specific services that is available to community organisations and HSPs
  - greater consistency of services available within the region
- improving mental health supports by:
  - ensuring secondary mental health services offer culturally appropriate and timely services
  - attempting to destigmatise mental illness via radio or television messages, relevant to these communities
- promoting community empowerment by improving the upstream determinants of health:
  - increase access to English as a second language (ESOL) classes
  - improve health literacy by providing health information in a variety of languages, sharing relevant knowledge on the New Zealand health care system and emphasizing the importance of preventive services (CVD, diabetes and screening)
  - create employment opportunities by providing targeted health sector scholarships or mentoring for people from these communities
  - increase inter-sectoral and regional collaboration, especially around housing issues (such as household crowding and indoor air quality)
- advocating for further research on MELAA health needs:
  - a time series report should be conducted 5 years from now (2015) to determine trends in health outcomes and utilisation of services
  - population projections and growth of the MELAA population should be estimated once the results from the next Census are available

- analysing the results from the numerous New Zealand Health Surveys (from 1992/93, 1996/97, 2002/03 and 2006/07) for the MELAA group should be considered
- further research on CVD and diabetes modifiable risk factors that are pertinent for these communities
- finding ways to improve ethnicity coding for the MELAA groups should be explored, especially for Zimbabweans and South Africans who would like to identify as 'African'.

# 1 Introduction

## 1.1 Health Needs Assessments and District Health Boards

The Ministry of Health (MOH) defines health needs assessments (HNA) as the(1):
*'Assessment of the population's capacity to benefit from health care services prioritised according to effectiveness, including cost-effectiveness, and funded within available resources.'*

HNAs are mandated by the Health and Disability Services Act (2000) Clause 23 (1g)(2), where a function of a District Health Board (DHB) is:
*'to regularly investigate, assess, and monitor the health status, of its resident population, any factors that the DHB believes may adversely affect the health status of the population, and the needs of that population for services.'*

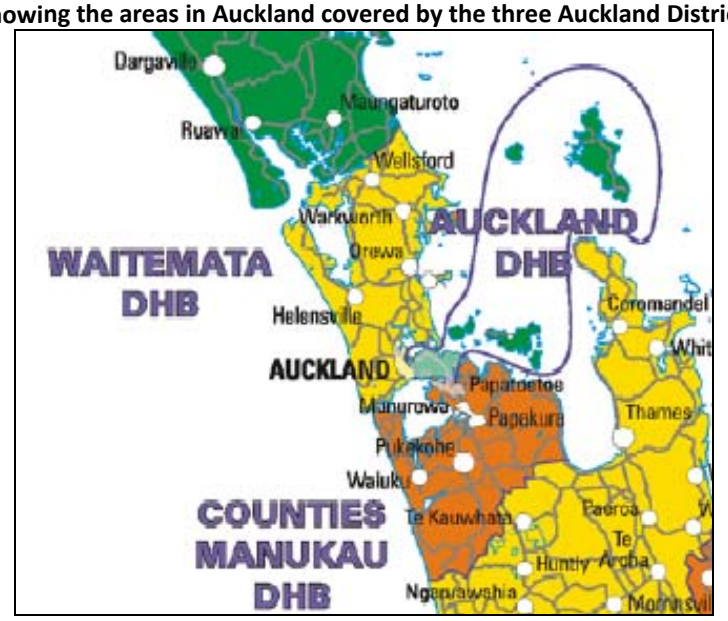
HNAs capture the best possible evidence to support and prioritise funding decisions that aim to maximise population health gains. HNAs influence District Strategic Plans which in turn influence the District Annual Plans that DHBs create.

## 1.2 The Auckland region

The three Auckland DHBs consist of Counties Manukau DHB (CMDHB), Auckland DHB (ADHB) and Waitemata DHB (WDHB). CMDHB is responsible for the funding of health and disability services for the people living in Manukau City, Franklin District and Papakura District. WDHB does the same for residents of North Shore City, Waitakere City and Rodney District. ADHB is responsible for the population of Auckland City.

In this report, the 'Auckland region' is defined as the total area covered by the ADHB, WDHB and CMDHB (Figure 1).

**Figure 1: Map showing the areas in Auckland covered by the three Auckland District Health Boards**




Note: Map obtained from the Ministry of Health website.(3)

## 1.3 Ethnicity

Statistics New Zealand (SNZ) describes ethnicity as(4):
'*the ethnic group or groups that people identify with or feel they belong to. Ethnicity is a measure of cultural affiliation, as opposed to race, ancestry, nationality or citizenship. Ethnicity is self perceived and people can belong to more than one ethnic group. An ethnic group is made up of people who have some or all of the following characteristics; a common proper name, one or more elements of common culture*

*which need not be specified, but may include religion, customs, or language, unique community of interests, feelings and actions , a shared sense of common origins or ancestry, and a common geographic origin.'*

Ethnicity data use and classification in New Zealand follows the Ethnicity Standards and Classification protocol developed by SNZ.(4) This protocol details ethnicity by following a hierarchical classification structure. Here, individual ethnic groups are aggregated into progressively broader ethnic groups from Level four up to Level one, according to geographical location, origin, or cultural similarities. In 2005, the SNZ's *Statistical Standard for Ethnicity* underwent some changes, which were eventually incorporated in the MOH's *Ethnicity Data Protocols for the Health and Disability Sector* by 2009.(5)

## 1.4 MELAA ethnicity grouping

Prior to 2005, individual ethnicities that were recognised as African, Middle Eastern or Latin American were classified under the 'Other' ethnicity group (at Level one). In 2005, in response to the growing number of people identifying as Middle Eastern, Latin American or African, SNZ created a new Level one ethnicity group known as 'MELAA'.(4) This acronym refers to Middle Eastern, Latin American or African ethnicities.

The MELAA ethnicity grouping is one of the six top level ethnicity groups created by SNZ (MELAA = Level 1 code 5). The other Level 1 ethnicity groups include European (Level 1 code 1), Maori (Level 1 code 2), Pacific peoples (Level 1 code 3), Asian (Level 1 code 4) and Other (Level 1 code 6). Census first used the MELAA ethnicity grouping in 2006. Table 63 in Appendix 1 details the various individual ethnicities (at Level 4) that are within the MELAA group.

The current Ethnicity Standards and Classification protocol poses several difficulties when analysing data for the MELAA group.

- Zimbabweans are classified as belonging in the 'Other European' group. Zimbabweans however, consist of a combination of people who may identify as 'African' or 'European'. As there was no meaningful way of extracting data for people who may identified as African Zimbabweans, no data is presented for them in this report. This is a significant limitation as the number of African Zimbabweans in Auckland could be 3500 people[b] and they could be the largest African subgroup in Auckland.
- Similar difficulties in ethnicity coding exist for people who may identify as 'African' rather than 'European' South Africans as all South Africans are classified as 'Other European'.
- Afghani people (who may identify as Middle Eastern) are classified as 'Asian' and not as 'Middle Eastern'.

### 1.4.1 Middle Eastern people in New Zealand

Middle Eastern people have origins from southwest Asia, where the European, Asian and African continents meet. No universally agreed definition on which countries are included in the Middle East exists. Some countries may be geographically aligned, but not politically or culturally. Historically, traditional membership to this region have included countries such as Turkey, Armenia, Egypt and Azerbaijan, to the more modern concept today of including Afghanistan and Pakistan. It is also a term that is sometimes used to refer to the Muslim countries in the region rather than purely based on geographical location. SNZ classifies the following ethnicities as Middle Eastern: **Algerian, Arab, Assyrian, Egyptian, Iranian/Persian, Iraqi, Israeli/Jewish/Hebrew, Jordanian, Kurd, Lebanese, Libyan, Moroccan, Omani, Palestinian, Syrian, Tunisian, Turkish (including Turkish Cypriot), Yemeni, Middle Eastern not further defined and Middle Eastern not elsewhere classified**.(4, 5) This system of classification may be confusing for some as geographical locations (countries) are also used to identify ethnicities rather than ethnic groups themselves, e.g. Iraqi is not an ethnicity, but 'Arab' and ' Kurdish' are.

[b] As per the Zimbabwe Association of New Zealand's Auckland membership numbers, personal correspondence, Tuwe K, programme manager African Communities for New Zealand AIDS Foundation, March 2010.

Since 1994, refugees from Iran and Iraq have formed a large proportion of New Zealand's refugee intake(6) and overall these groups make up the largest Middle Eastern populations. These ethnic groups are extremely complex by way of having diverse languages and ethnic affiliations (Table 1).

Most Iranians arrived as refugees in New Zealand during the 1990s as opposed to voluntary migration.(7) In Iran, improvements in health care and public health measures made during its period of economic growth were lost following the long conflict with Iraq. Access to health care is poor, especially in rural areas where folk medicine is still practised and access to specialist services is initiated by patients themselves (in contrast to the Westernised New Zealand health care system).(6)

Many Iraqi refugees who came to New Zealand in the 1990s were Assyrian Christians who were oppressed by the ruling Muslim Sunni class(7) and suffered greatly from the Iran-Iraq conflict and the Gulf Wars. Since the Gulf War, access to good health care in Iraq has deteriorated significantly resulting in high infant mortality rates and malnutrition as well as a loss of their comprehensive immunisation programme.(6)

Lebanese people have been present in New Zealand since the late 1800s.(8) They have a long history of settlement and the original migration was preceded by young people leaving Lebanon seeking economic opportunities elsewhere. Many eventually established successful businesses. Lebanese people have settled in Auckland since the 1890s and have become well established in their local communities.(8) This situation contrasts with the forced migration faced by the aforementioned Iranian and Iraqi refugees who have come to New Zealand more recently.

Other smaller Middle Eastern groups from Kuwait, the United Arab Emirates, Turkey, Saudi Arabia, Syria, Jordan and Bahrain have mainly came to New Zealand in the 2000s.(7)

**Figure 2: Map of countries with Middle Eastern groups (within the red line)**

Note: Map obtained from Te Ara - the Encyclopaedia of New Zealand (online).(9)

**Table 1: Summary of the major religions, ethnic groups and languages from Iran and Iraq**

| Country | Religion and ethnic groups | Languages |
|---|---|---|
| Iran | Mainly Islamic (with Shias predominantly), other Muslim groups, Bahais, Catholics, Jews, Zoroastrians, also some Kurdish people | Farsi (Persian), other minority languages |
| Iraq | Mainly Islamic with Shias in south and Sunnis in north, Christian Assyrians, Kurds and other minorities | Arabic, Kurdish and Assyrian |

Note: Table adapted from 'Refugee Health Care: A handbook for health professionals' published by the Ministry of Health.(6)

### 1.4.2 African people in New Zealand

African people can trace their ancestry to the continent of Africa, which has 53 sovereign countries. The ethnicities classified as African by SNZ are: **Creole (US), Jamaican, Kenyan, Nigerian, African American, Ugandan, West Indian/Caribbean, Somali, Eritrean, Ethiopian, Ghanaian, African not further defined and Other African not elsewhere classified**.(4, 5)

Africans had little opportunity to migrate to New Zealand before the 1990s due to New Zealand's 'traditional source country' immigration policy favouring migrants from the United Kingdom and Ireland.(10) By the late 1980s and early 1990s, more refugees from Africa came to New Zealand with the adoption of a formal refugee quota in 1987. They were predominately from Somalia, Ethiopia, Eritrea, Djibouti and Sudan.(6) Many were fleeing political unrest and famine. African refugees come from extremely diverse backgrounds which include various religions, ethnic affiliations and a variety of spoken languages (Table 2). By the early 2000s however, the majority of African people in New Zealand were made up of migrants rather than refugees. Between 2002 and 2004, 46,806 migrants from Africa came to New Zealand, mainly from South Africa and Zimbabwe.(11) Again, changes in the political climate were a key factor in their migration.

Prior access to health care was poor for most people coming from countries within the Horn of Africa.(6) The health care coverage is poor, with significant disparity between urban and rural health care services. In these countries, most health care is provided by community-based clinics and delivered by health workers (e.g. nurses or birthing attendants). Traditional healers are also used extensively. People from these countries would be unfamiliar with the New Zealand health care system especially relating to general practice services and formalised appointment systems.(6)

**Figure 3: Map of some countries with African groups (below the red line)**

Note: Map obtained from Te Ara - the Encyclopaedia of New Zealand (online).(9)

**Table 2: Summary of the major religions, ethnic groups and languages from some African countries**

| Country | Religion | Ethnic Groups/Clans | Languages |
|---|---|---|---|
| Eritrea | Coptic Christian, Islam, Catholic and Protestant minorities, some traditional religions | Includes Tigrinya, Tigre, Bilen, Afar, Saho, Kunama, Nara, Hidareb, Rashaida | Mainly Tigrinya or Tigray, Arabic, some local languages, some English and Italian |
| Ethiopia | Ethiopian orthodox, Islam, some traditional African religions | Includes Amhara, Oromo, Tigre, Gurage, Niloti, Somali, Danakil | Amharic, Oromo, Tigrinya, some local languages, some English and Italian |
| Somalia | Mainly Islam, some Christians | Includes the Dir, Issaq, Hawiye, Digil, Rahawayn, Darood | Somali and Arabic, some English and Italian |
| Sudan | Mainly Islam, minority Christians, some traditional religions | North: Mainly Arabs, inc. Nubian, Jamla, Beja and other groups<br>South: Nilotic Africans, inc. Dinka, Nuer, Shiluk and others | Arabic (including Creole Arabic in the South), many local languages, some English |

Note: Table adapted from 'Refugee Health Care: A handbook for health professionals' published by the Ministry of Health.(6)

### 1.4.3 Latin American people in New Zealand

Latin America is a region of the Americas (Figure 4). It is a diverse area where the main spoken languages are the Romance languages and there is a mixture of ethnicities (Table 3). Statistics New Zealand classifies the following ethnicities as Latin American: **Argentinean, Bolivian, Brazilian, Chilean, Columbian, Costa Rican, Creole (Latin America), Ecuadorian, Guatemalan, Guyanese, Honduran, Malvinian (Spanish-speaking Falkland Islander), Mexican, Nicaraguan, Panamanian, Paraguayan, Peruvian, Puerto Rican, Uruguayan, Venezuelan, Latin American/Hispanic not further defined and Latin American/Hispanic not elsewhere classified**.(4, 5)

Very few Latin Americans came to New Zealand before the 1970s.(12) Latin Americans were part of the mid-19th century's population of gold seekers and in 1874, it was noted that there were less than 80 people who were Brazilian, Chilean, Mexican or Peruvian in New Zealand.(12) Chilean refugees arrived in New Zealand after the military coup of 1973. Large numbers of Brazilians came in early 2000, and by 2006 their numbers had outstripped Chileans. In 2001, a working holiday scheme was introduced in Chile and currently has 1000 places. A similar working holiday scheme was introduced for Argentina and since December 2006, 1000 visas have been available per year.(13) Brazil is New Zealand's ninth largest education market and around 3500 Brazilians currently study in New Zealand per annum. A working holiday scheme was ratified at the end of 2009 which has up to 300 places.(14)

In the Latin American region, non-communicable disease rates are rising.(15) People who live in rural villages, people of indigenous and mixed African ethnicities and women have difficulties accessing heath services.(15) It is difficult to evaluate the differences in health care systems in Latin America compared with New Zealand as there are enormous variations between the different Latin American countries. Countries such as Brazil, Chile and Argentina have more positive demographic and health indicators than Guatemala or Haiti.(15, 16)

**Figure 4: Map of countries in Latin America**

Note: Map obtained from Te Ara - the Encyclopaedia of New Zealand (online)(12)

**Table 3: Summary of major religions, ethnic groups and languages from Latin American countries**

| Country | Religion | Ethnic Groups | Languages |
|---|---|---|---|
| Argentina | Catholic predominantly(13) | European 97%, Mestizo (mixed European and Amerindian), Amerindian (aboriginal population of Latin America) or other non-European groups 3%(17) | Spanish |
| Brazil | Roman Catholic 73%, Protestant 15%(14) | European 54%, Mulatto (mixed European and African) 39%, African 6%(17) | Portuguese |
| Chile | Catholic (67.7%), Protestant/Evangelical (15. 1%)(18) | European and Mestizo 95%, Mapuche (indigenous tribe) 4% | Spanish |

## 1.5 The usefulness of the MELAA ethnicity grouping

In part 1.4, the different ethnicities within the MELAA ethnic group were discussed. Clearly, the MELAA ethnicity grouping is made up of three very diverse populations. Within each subgroup ethnicity (Middle Eastern, Latin American and African), there exists a huge variety of languages, religions, tribal affiliations, geographical origins, shared history and reasons for migration.

Some of the newer African refugees have experienced extremely poor health care systems, health care practices and socio-economic living conditions in their home countries compared with New Zealand. Again, their situation is very different to that experienced by some Iraqi and Iranian people, who pre-Gulf War had relatively good health care infrastructures and standards of living. The majority of Latin

Americans presently in New Zealand are voluntary migrants who are here seeking better economic and learning opportunities.

The MELAA ethnicity grouping is an artificial grouping of three very diverse ethnic groups, mainly for the purpose and convenience of statistical analysis. In order to understand the health needs of these populations in a meaningful way, the three groups within the larger MELAA grouping need to be looked at individually- Middle Eastern, Latin American and African. This report only uses the MELAA grouping to report on indicators where it was not possible to disaggregate the data to the separate ethnicities.

It should be noted that even within the individual ethnic groups there is considerable diversity and each ethnic group can be highly stratified in terms of their socioeconomic status. For example, a newly arrived Brazilian student from urban Rio has very different health needs to a rural Columbian refugee. This report however is unable to divide the Level 2 ethnicities into smaller Level 4 categories as the population numbers would be too small and most ethnicity data at Level 4 is unavailable for analysis.

## 1.6 The effects of migration on the health of populations

### 1.6.1 The healthy migrant effect

The healthy migrant effect is a phenomenon where the health of first generation immigrants is often better than the host population.(19) With time, this effect diminishes, where the longer an immigrant lives in the host country, the worse their health becomes. In consequent generations of migrants, the effect is reversed, often due to a number of factors including barriers to access health services.(20) This effect is thought to occur due to a number of reasons, mainly self-selection at the time of migration. Immigration legislation in most countries requires an applicant to undergo a medical examination, to determine whether they are healthy enough to be accepted.(21) This process of selection influences the choice of migrants in that it is more likely to favour healthy migrants. Also presently, most immigrants come from countries where lifestyle-associated behaviours contributing to chronic diseases are less than these in the host (developed) country.(21)

This effect should not be confused with equitable health outcomes as it is short lived and may not be obvious in all indicators of health.(22) As migrant populations are disparate, there will be significant differences in the occurrence of health conditions between and within the various migrant groups.(20)

Of note, refugees and asylum seekers may not have the same health status as 'voluntary' migrants at the time of arrival in a host country as often they may have faced significant periods of famine, violence and forced separation from families. Furthermore in New Zealand, most of the refugees accepted are those identified as the 'most needy' by the United Nations High Commissioner for Refugees (UNHCR). It is uncertain how much of the 'healthy migrant' effect holds true in the different refugee populations in New Zealand.

Many refuges may experience significant mental and emotional stress in being sent to a new host country that they have been allocated to from temporary refugee camps. Some may come from middle class backgrounds and worked in occupations where they were respected by their communities. Refugees face significant cultural, language and bureaucratic impediments on coming to New Zealand and seldom are able to gain employment and community respect at a similar level to their home countries. Children especially have difficulties as they may face confusion as to their cultural identities and having spent significant time away from formal schooling, adapting to New Zealand's education system with English as the main language often proves challenging.

Refugees are very different to a 'standard' immigrant and this has overall influence on their health and wellbeing. Table 4 shows the key differences between refugees and voluntary migrants.

**Table 4: Differences between migrants and refugees**

| Migrants | Refugees |
|---|---|
| Migrants choose to leave their homeland and settle in a country of their choice. They arrange the most suitable method of travel and pack the possessions they wish to take. They can sell or dispose of possessions they don't wish to take. | Refugees do not choose to leave their homeland. They flee in response to a crisis. They have little choice about where they go and by what means they will travel. They have no time to pack or to distribute possessions. Almost everything is left behind. |
| Migrants have time to prepare emotionally for their departure and to farewell friends and family appropriately. | Refugees, due to their hurried, often secret departure, are unprepared emotionally for leaving, and may not have time to farewell loved ones. |
| Migrants take with them their travel documents, passports, and other documentation, including educational qualifications. | Refugees often flee without any documentation whatsoever. |
| Migrants usually emigrate with their families. | Refugees must often leave family members behind. |
| Migrants depart for their new country knowing that they can return to their homeland for visits, or return permanently if they cannot settle. | Refugees, although they dream of returning home, know that this is unlikely to happen.[7] |
| Migrants are usually well prepared and well motivated to settle in a new country. Many will have found out about schools, employment and local conditions before they left their homeland. | Refugees arrive in their new country ill-prepared and often traumatised. They have little in the way of possessions and financial resources. They are often debilitated by a pervading sense of loss, grief, worry and guilt about the family left behind. |
| Migrants, due to their better levels of health, education and economic independence, are less likely to encounter negative attitudes in their resettlement country. | Refugees may experience stigma and prejudice in their resettlement country in relation to cultural differences, disease prevalence, low education levels and perceived burdening of the welfare system. |

Note: Table taken from 'Refugee Health Care: A handbook for health professionals' published by the Ministry of Health.(6)

### 1.6.2 Refugee health in New Zealand

New Zealand as part of its international humanitarian obligations and responsibilities, has accepted refugees for resettlement since World War II. Currently the annual refugee quota is 750 refugees.(6) New Zealand is unique in that it reserves its quota placements for the most needy cases such as medically disabled, women at risk and protection cases as identified by the UNHCR. All quota refugees spend their first six weeks on arrival at the Mangere Refugee Resettlement Centre (MRRC) in Auckland where they are assisted on settlement issues, including English language lessons. The MRRC also has a medical clinic where refugees are screened and receive treatment for any ailments.

The Auckland Regional Public Health Unit published a report in 2008 on refugee health.(23) The report analysed the use of health services by refugees who settled in New Zealand from 2004 to 2007. The major ethnicities were Middle Eastern and African and the population as a whole had a young age distribution on arrival (more than 90% were < 45 years old). Refugees were found to have high levels of enrolment with primary health organisations (PHOs). Their hospitalisation rates were much higher compared with other groups in New Zealand, with 'dental caries' and 'special screening examination for respiratory tuberculosis' being the most common diagnoses. The most common primary diagnosis of longer admissions (≥10 days) was bronchiectasis. Tuberculosis was common with the majority of cases diagnosed within the first two years of arrival. The 2004 cohort of refugees had higher rates of mental health service utilisation than Maori and non-Maori non-Pacific rates. This study concluded that people from refugee backgrounds have high health needs based on their high level of health service utilisation.

# 2 Aims and objectives

This HNA provides the following information on Middle Eastern, Latin American and African populations residing in the Auckland region:

- demography
- socio-economic determinants of health
- population health status and health status inequalities
- patterns of health service utilisation and areas of unmet health needs.

# 3 Methodology

A mixed approach was used, that drew on epidemiological data, a thematic review analysis and health service provider (HSP) interviews.

## 3.1 Approach

The approaches taken in completing this HNA involved the report writer performing the following:

- an epidemiological analysis of the health status of MELAA populations in the Auckland region with relevant demographic information
- a qualitative analysis of MELAA health needs by interviewing health service providers.

The following reports were completed by a separate person:

- a thematic review on MELAA health needs from existing qualitative and quantitative consultation material and international literature
- a stock take of services targeting the MELAA populations.

## 3.2 Ethnicity Data

### 3.2.1 'Total response vs. prioritised response'

Ethnicity data in the health care sector commonly uses a 'standard prioritisation' process that follows the protocol defined by the MOH in the *Ethnicity Data Protocols for the Health and Disability Sector 2004* (updated in 2009).(5) Here, each respondent is allocated to a single ethnic group using a priority system where specific ethnicities are prioritised ahead of others as follows; Maori> Pacific peoples> Asian> MELAA> Other groups (except NZ European)> and NZ European (see Table 64, Appendix 2). Prioritisation aims to ensure that where some need exists to assign people to a single ethnic group, groups that are small in size are not swamped by the much larger NZ European group. Here, the total number of responses will match the total population number.

In 'total response' output, each respondent is counted in each of the ethnic groups that they identified with. Because individuals who indicate more than one ethnic group are counted more than once, the sum of the ethnic group populations will exceed the total population of New Zealand. This form of output is useful to represent all those people who identify with any given ethnic group. However it can create difficulties in the distribution of funding based on population numbers or in monitoring changes in the ethnic composition of a population.

### 3.2.2 Custom prioritised ethnicity

This report uses a 'custom prioritised ethnicity response' unless otherwise stated. Here, anyone who identifies as MELAA in any of the ethnicity responses will be prioritised to the MELAA group ahead of all other ethnicities. A list of the custom prioritisation codes and order is shown in Table 65 in Appendix 2. Where custom prioritisation is not possible, MOH standard prioritisation of ethnicity or total response ethnicity is used (and will be stated).

## 3.3 Indicator selection

Indicators for the MELAA HNA were selected based on data availability, common indicators presented in other HNAs and findings from the thematic review and health service provider interviews.

## 3.4 Data sources

Data used in this report has been analysed from various pre-existing sources. The table below summarises the data sources used:

**Table 5: Summary of data sources used in this report**

| Data owner | Data source | Year(s) of data used | Data analysed/provided |
|---|---|---|---|
| Statistics New Zealand, Wellington | Census of Population and Dwellings | 2006 | Demography, Socioeconomics determinants of health, Smoking prevalence for adults |
| | Births data from BDM | 2006-2008 | Total fertility rate |
| Ministry of Health, Wellington | Mortality Collection Dataset | 2004-2007 | Mortality |
| | National Minimum Dataset (NMDS) | 2006-2009 | Hospitalisations (public hospitals) |
| | New Zealand Health Tracker Project Data | 2007/08 | Diabetes and CVD prevalence from combined datasets |
| | Programme for the Integration of Mental Health Data (PRIMHD) | 05/06- 08/09 | Access to secondary mental health and addiction services |
| Royal New Zealand Plunket Society, Auckland Branch | Plunket records on breastfeeding | 2006-2009 | Breastfeeding rates |
| Oral Health Services, WDHB | Oral Health database | 2007-2010 | Caries free indication and number of decayed, missing or filled teeth (DMFT) |
| National Screening Unit, Ministry of Health | Breast Screening Aotearoa data and National Cervical Screening Programme data | 2006-2009 | Screening volumes for mammograms and cervical smears |
| Epsom Day Unit, Auckland District Health Board | Dataset on 'Termination of Pregnancies' | 2000-2009 | Public termination of pregnancies |
| Northern DHBs Support Agency (NDSA) | PHO enrolment data mart | 2006-2010 | PHO enrolment, Community services card and Care plus plan enrolments |
| | New Zealand Cancer Registry | 2005-2007 | Cancer Registrations |
| | Auckland regional DHBs Patient Information Management Systems (PiMS) | July 2005 - June 2008 | Emergency Department attendances |
| | Laboratory claims NHI extracts | 2009 | Nominal dollar value for laboratory subsidies paid to laboratories |
| | Pharmaceutical claims NHI extracts | 2009 | Reimbursement value for dispensing |
| All three Auckland DHBs | Hospital service analysts | 2009 | All outpatient clinic DNA rates |
| AIDS Epidemiology Group, University of Otago Medical School | Notified AIDS cases and HIV positive cases | 1996-2009 | Number of notified AIDS cases and HIV positive cases |

## 3.5 Statistical methods

### 3.5.1 Population estimates

#### 3.5.1.1 Denominator data

Obtaining the best estimated population number for the Middle Eastern, Latin American and African populations in the Auckland region proved very challenging. Conventionally, Census population counts are used as denominators to calculate rates in populations. The last Census count however was in 2006 and the MELAA population growth in the Auckland region would have changed significantly since then. The MELAA population growth has been influenced not only externally (from changes in migration policies and refugee source countries) but also internally via population mobility and population fertility which could make the Census 2006 population counts unreliable and incredibly hard to use to predict the population numbers from 2006 onwards.

In this HNA, PHO enrolment data was used to estimate the MELAA ethnicity population size from 2006 to 2010. It was felt to give a more accurate picture of the 'true' population size for these populations in Auckland. It captured a larger total MELAA population size in 2006 (21,860 persons compared with the estimated prioritised resident Census 2006 population count of 21,101 persons[c]) and would be less likely to undercount MELAA for the years 2007 to 2010 compared to any hypothetical projected counts from the Census 2006 data.

There are some limitations however in using PHO counts:

- it is not commonly used as a denominator for populations; hence this HNA would not be comparable to other HNAs that have used Census counts as denominators
- the MELAA population size is only of the enrolled PHO population, hence does not capture un-enrolled populations
- it is likely to undercount Maori by 10% compared with Census (in CMDHB area) due to poor data capture from multiple ethnicity coding[d]. Also three Maori practices within the CMDHB area are not currently funded by CMDHB, hence their populations would not be included when estimating population size by funding DHB based on PHO enrolment data[e]
- PHO registers have lower rates of multiple ethnic coding (2-3%) than do hospitals (5-8%) or the Census (10-12%)[f]. So their methods of ethnicity data collection are likely to be simpler. It is possible that they may register European-origin South Africans and Zimbabweans as 'African' and this may explain the apparent excess for 'Africans' in the PHO data compared with the Census data. Only 1-2% of records in PHO registers have more than one ethnicity recorded, whereas the Census has 12 to 14% recorded with more than one ethnicity[g].

In order to address some of these data limitations, any Maori or Pacific rates presented are calculated using the Census 2006 estimated population size as the denominator. The non-MELAA, non-Maori and non-Pacific population (referred to as Others) uses the PHO enrolled population count as the denominator to have consistency in comparing it with the MELAA population. Maori and Pacific data will only be presented where it is thought to be relevant.

For national levels estimates, the Census 2006 custom prioritised population count was used as the denominator as the PHO enrolment data was only available for the Auckland DHBs (as supplied by NDSA).

[c] The estimated resident count is based from the Census usual resident population count 2006. The usual resident size is multiplied by 1.1354 to obtain the estimated resident population numbers. Data here is based on custom prioritised ethnicity.
[d] Jackson G, Public health physician, CMDHB, internal CMDHB work.
[e] Hanham G, Health information analyst, NDSA, personal correspondence.
[f] Jackson G, Public health physician, CMDHB, internal CMDHB work.
[g] Jackson G, Public health physician, CMDHB, internal CMDHB work.

#### 3.5.1.2 Estimation of rates

***Numerator data***

Due to the small number of events for some indicators at Level 2 ethnicity classification, data has been aggregated by combining data over a number of years (mainly 2006 to 2009) where possible.

For numerator data, as the number of total events can be very small at Level 2 ethnicity (especially for Latin American people), the total number of events and the calculated rates are also presented. This is done to allow the reader to note that the small number of events can affect the reliability of the calculated rates and caution should be practised when interpreting the rates/percentages calculated.

In any set of comparisons small studies/populations will have more variability than large ones and even if there is no underlying difference, the small sample will show up as significantly low or significantly high more often.

***Rates***

All rates are per 100,000 people per year, unless otherwise stated. Rates for procedures and conditions within hospitals are for discharges rather than individuals. Hospital admission rates are based on public hospital data only, and no private hospital data has been used in this report.

***Age-standardisation***

All data presented is age adjusted to ensure greater accuracy and validity of comparisons between populations which have different age structures. In this HNA, rates are age standardised according to the Census 2001 New Zealand population, unless otherwise stated.

Data from the New Zealand Health Tracker project was provided standardised against the WHO world population.

#### 3.5.1.3 Confidence Intervals

Confidence intervals are not provided for mortality or hospital data as rate estimates are from populations and not based on samples. Similarly for proportions calculated from Census data.

Confidence intervals are presented for age standardised diabetes and CVD prevalence rates from the New Zealand Health Tracker Project.

#### 3.5.1.4 Comparison population

The main purpose of this HNA was to present regional health data for the MELAA populations rather than any other ethnicity. Hence the comparison population with health data is the non-MELAA, non-Maori and non-Pacific populations referred to as 'Others' (i.e. European, Asian, Others and Not Elsewhere Specified).

When presenting Census and New Zealand Health Tracker (MOH) data for the MELAA ethnicities, the comparison population is European. Where data was only made available for the MELAA population and European (and no other ethnicity), the comparison population for MELAA was European.

In some indicators, data for Maori and Pacific peoples are also presented. This is to describe the situation for MELAA in comparison with other ethnicities that are known to have high rates of particular indicators (e.g. diabetes and cardiovascular diseases).

#### 3.5.1.5 New Zealand deprivation data presentation

The Census and PHO enrolment data uses the NZDep2006 index of deprivation to measure socioeconomic status while the New Zealand Health Tracker project uses the NZDep2001 index of deprivation to measure socioeconomic deprivation levels.

## 3.6 Data presentation

Data is compared between Level two classified MELAA ethnicities and the comparison population of 'Others' or European. Aggregated data at Level one ethnicity for MELAA is not presented unless Level two data is unavailable.

In this report, children are defined as being 0-14 years and adults as 15+ years of age. Potentially avoidable hospitalisation indicators and potentially avoidable mortality indicators are estimated in adults from 15 to 74 years of age only.

## 3.7 Data limitations

It is important to note that data from the New Zealand Health Survey was not able to be used for the MELAA population. Even at Level 1 ethnicity grouping for MELAA, the number of participants in the survey was too low.

As some of the numerator events are small in number and the total population size also relatively small, the calculated rates have to be conservatively interpreted as a change in even one more or less event can significantly influence the rate, which may be a variation due to chance alone. Small denominators may lead to spuriously high proportions.(24)

At the time of conceptualising this report, the steering group had decided not to conduct interviews with community members before the HNA was completed. Rather it was felt that it would be more useful and relevant to feedback and share the information with these communities post report completion and to then collaboratively formulate strategies to meet their health needs. Hence this report does not contain results of interviews or focus group meetings with members from these communities.

## 3.8 Health service provider interviews

### 3.8.1 Objectives of health service provider interviews

The decision to interview health service providers (HSP) that either have a high population of MELAA clients or provide targeted services for these populations was taken based on the following objectives:

- ensure triangulation of information by combining the knowledge from HSP interviews with a quantitative data findings
- know what the pressure points were in primary and secondary health services
- obtain information on good models of care and examples of bad or challenging practices and develop recommendations on how to improve them
- gain knowledge on what HSPs know about the population's eligibility for services to support their health needs
- assess if the MELAA population is perceived/treated differently to other groups
- ascertain if there was an expressed need for more information on MELAA health needs or desire for cultural competency training.

### 3.8.2 Methodology

As this HNA was completed within a 6 month timeframe, a limited number of interviews were conducted targeted only at health service providers. HSPs from different ethnic groups, backgrounds, professions, activities and localities were chosen based on a list of interviewees suggested by the steering group. From this list, 13 interviewees were chosen and approached by the report writer to be interviewed. 11 interviewees consented to being interviewed. Interviews were conducted in a semi structured manner around a common set of prompter questions (see Appendix 6 for list of interviewees and prompter questions). Interview times ranged from 20 to 120 minutes dependent upon interviewee responses. Interviews were summarised by the report writer and key points and themes were extracted.

# 4 Population demography

This section presents data on the demography of the MELAA populations in the Auckland region.

## 4.1 Population size

### 4.1.1 Census 2006 MELAA population

According to the 2006 Census, 0.9% (34,746 people) of the total NZ population identified as Middle Eastern, Latin American or African (MELAA) and approximately half of them (18,585 people) resided within the Auckland region (Table 6). In Auckland, the MELAA population were 1.4% of the total population. Within the MELAA grouping, Middle Eastern people had the largest number (n=10,692), followed by African (n=4,806), then Latin American (n= 3,087).

**Table 6: Population size at Level 2 ethnicity, Census 2006**

| Ethnic Groups | Auckland region | | Rest of New Zealand | | Total New Zealand | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| **African** | **4,806** | **0.4%** | **5,841** | **0.2%** | **10,647** | **0.3%** |
| **Latin American** | **3,087** | **0.2%** | **3,552** | **0.1%** | **6,642** | **0.2%** |
| **Middle Eastern** | **10,692** | **0.8%** | **6,765** | **0.2%** | **17,457** | **0.4%** |
| **MELAA** | **18,585** | **1.4%** | **16,158** | **0.5%** | **34,746** | **1%** |
| Maori | 139,524 | 10.6% | 424,620 | 15.7% | 564,141 | 14.0% |
| Pacific | 158,733 | 12.0% | 67,383 | 2.5% | 226,116 | 5.6% |
| Asian | 227,187 | 17.2% | 113,043 | 4.2% | 340,230 | 8.4% |
| European | 614,112 | 46.5% | 1,671,765 | 61.7% | 2,285,877 | 56.8% |
| Other | 94,356 | 7.2% | 314,700 | 11.6% | 409,053 | 10.2% |
| Not Elsewhere Included | 66,861 | 5.1% | 100,926 | 3.7% | 167,784 | 4.2% |
| Total population | 1,319,355 | 100.0% | 2,708,592 | 100.0% | 4,027,947 | 100.0% |

Source: Statistics NZ, custom prioritised ethnicity, usually resident population count, Census 2006

Table 7 presents the Census 2006 MELAA population size in Auckland compared with the rest of New Zealand by total ethnicity and custom prioritised ethnicity responses. The difference between total and customised responses at Level 2 MELAA ethnicity classification was minimal.

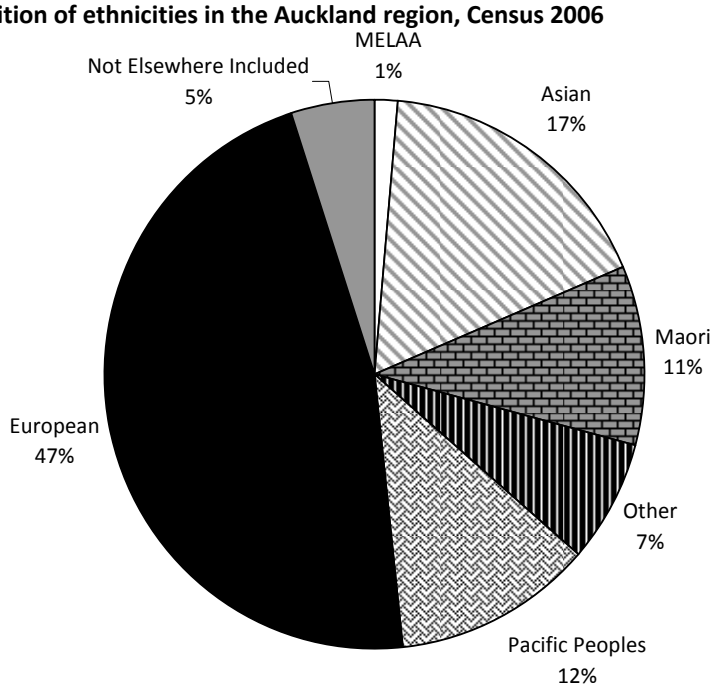
**Table 7: MELAA ethnic group composition in Auckland and New Zealand, total vs. prioritised ethnicity, Census 2006**

| Ethnicity | Census 2006 Usually resident population | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total ethnicity response | | | | | | Custom prioritised ethnicity response | | | | | |
| | Auckland region | | Rest of New Zealand | | Total New Zealand | | Auckland region | | Rest of New Zealand | | Total New Zealand | |
| | n | % | n | % | n | % | n | % | n | % | n | % |
| **Middle Eastern** | 10,719 | 61.2 | 6,789 | 38.8 | 17,514 | 100 | **10,692** | 61.2 | 6,765 | 38.8 | 17,457 | 100 |
| **Latin American** | 3,102 | 46.6 | 3,558 | 53.5 | 6,654 | 100 | **3,087** | 46.5 | 3,552 | 53.5 | 6,642 | 100 |
| **African** | 4,803 | 45.1 | 5,844 | 54.9 | 10,647 | 100 | **4,806** | 45.1 | 5,841 | 54.9 | 10,647 | 100 |
| **MELAA** | 18,585 | 53.5 | 16,161 | 46.5 | 34,746 | 100 | **18,585** | 53.5 | 16,158 | 46.5 | 34,743 | 100 |

Source: Statistics NZ, usually resident population count, Census 2006

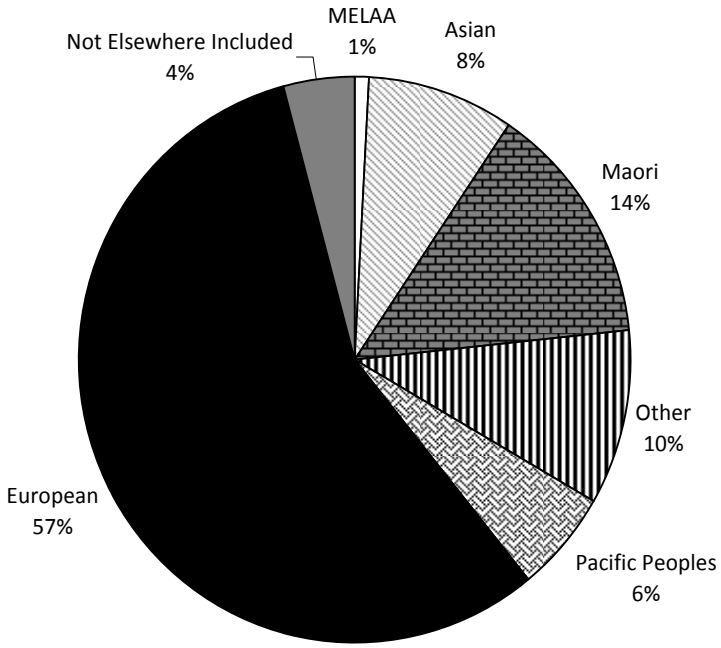
Figure 5 and Figure 6 show the composition of the different Level 1 classified ethnicities in the Auckland region and nationally. The proportion of MELAA in Auckland was roughly equal to the proportion of MELAA nationally.

**Figure 5: Composition of ethnicities in the Auckland region, Census 2006**




Source: Statistics NZ, custom prioritised ethnicity, usually resident population count, Census 2006

**Figure 6: Composition of ethnicities in New Zealand, Census 2006**




Source: Statistics NZ, custom prioritised ethnicity, usually resident population count, Census 2006

### 4.1.2 Census 2006 versus PHO enrolment data for MELAA in Auckland

In this section, Primary Health Organisation (PHO) enrolment data is presented as a more accurate estimate for MELAA Level 2 ethnicity population sizes for Auckland. The PHO data captures the size and details of the enrolled population, where each individual has a unique National Health Index (NHI) number in New Zealand, with a primary health provider. The PHO enrolment data is more likely to give a 'true' population size (rather than just estimated from Census 2006) in Auckland from 2006 to 2010.

In 2006, the PHO enrolment data captured a larger MELAA population than Census 2006 estimated resident (ER) population count (21,973 persons compared with 21,101 persons[h]), (Table 8). At Level 2 ethnicity classification, there was a greater number of Africans from the PHO data compared with the Census estimated resident (ER) 2006 population size. This may indicate that the Census 2006 undercounted Africans. The Latin American population size from the PHO enrolment data was smaller than the Census ER population. The Latin American population was mainly made up of a young population (see Part 4.6). They may be highly mobile (many of the young people may be in New Zealand for studies or working holidays and then return back to Latin America) and are may be less likely to enrol with a PHO. The PHO enrolment number may be more likely to show the 'fixed' Latin American population size residing in the Auckland region.

In 2010, the PHO enrolment data shows that the MELAA population has a total of 28,637 persons in Auckland (of which there are 14,348 Middle Eastern, 2,915 Latin Americans and 11,374 Africans)

**Table 8: Comparison between Census usually resident, estimated resident and PHO enrolment population numbers, Auckland region, 2006**

| Ethnicity | Census 2006 usually resident population* | Census 2006 estimated resident population* | PHO enrolled 2006 Quarter2 population * | PHO enrolled 2010 Quarter 1 population * |
|---|---|---|---|---|
| **MELAA group** | **18,585** | **21,101** | **21,973** | **28,637** |
| Middle Eastern | 10,692 | 12,140 | 11,869 | 14,348 |
| Latin American | 3,090 | 3,508 | 1,802 | 2,915 |
| African | 4,803 | 5,453 | 8,302 | 11,374 |
| Others | 1,002,513 | 1,138,253 | 969,861 | 1,025,320 |
| Maori | 139,524 | 158,416 | 124,627 | 133,279 |
| Pacific | 158,733 | 180,225 | 191,578 | 215,070 |

Source: Statistics NZ, Census 2006 (usually resident) and NDSA, PHO enrolment data mart, *custom prioritised ethnicity.
Note : Others= non MELAA, non Maori, non Pacific.. PHO Quarter 2: April to June 2006. PHO Quarter 1: Jan to March 2010.

Table 9 presents the PHO enrolment data and shows all ethnicities the MELAA group identified with when standard prioritisation of ethnicity was used. For 2006 and 2010, a very small number of the MELAA population identified with other non-MELAA ethnic groups.

[h] The estimated resident count is based from the Census usual resident population count 2006. The usual resident size is multiplied by 1.1354 to obtain estimated resident population numbers. Data here is based on custom prioritised ethnicity.

**Table 9: All other ethnicities that the MELAA population has identified with using standard prioritisation, Auckland region, 2006 and 2010**

| MELAA groups* | Ethnicities identified using standard prioritisation | 2006 (Quarter 2) | 2010 (Quarter 1) |
|---|---|---|---|
| African | MELAA | 8,266 | 11,311 |
| | Maori | 7 | 19 |
| | Pacific Island | 9 | 11 |
| | Other | 20 | 33 |
| **African Total** | | **8,302** | **11,374** |
| Latin American | MELAA | 1,792 | 2,900 |
| | Maori | 5 | 2 |
| | Pacific Island | 4 | 7 |
| | Other | 1 | 6 |
| **Latin American** | | **1,802** | **2,915** |
| Middle Eastern | MELAA | 11,802 | 14,289 |
| | Maori | 5 | 9 |
| | Pacific Island | 2 | 17 |
| | Other | 60 | 33 |
| **Middle Eastern Total** | | **11,869** | **14,348** |

Source: NDSA, PHO enrolment data mart, *custom prioritised ethnicity.
Note : Others= non MELAA, non Maori, non Pacific. PHO Quarter 2: April to June 2006. PHO Quater 1: Jan to March 2010.

## 4.2 The distribution of MELAA populations within territorial authorities

The results for the Level 4 ethnicity subgroups within each MELAA ethnicity by territorial authority are shown in separate tables in Appendix 3. The key results are summarised below. Here, ethnicity is based on total ethnicity response to maintain confidentiality (due to the small population numbers).

### 4.2.1 African people

For the Auckland region, the largest African group at Level 4 was 'African not further defined' (41%), (Table 10). This category contained responses that were not specific but were able to be placed in a broader category in the ethnicity classification i.e. African. The next largest identifiable African ethnicity was Ethiopian (14%), followed by Somali (12%).

**Table 10: African ethnicities at Level 4 ethnicity classification, Auckland region, Census 2006**

| Ethnic Groups | n | % |
|---|---|---|
| African nfd | 1986 | 41.3 |
| Ethiopian | 672 | 14.0 |
| Somali | 573 | 11.9 |
| African nec | 477 | 9.9 |
| West Indian | 279 | 5.8 |
| Nigerian | 189 | 3.9 |
| Ghanaian | 174 | 3.6 |
| African American | 159 | 3.3 |
| Jamaican | 129 | 2.7 |
| Eritrean | 99 | 2.1 |
| Kenyan | 66 | 1.4 |
| Ugandan | 21 | 0.4 |
| United States Creole | 18 | 0.4 |
| Total African | 4803 | 100.0 |

Source: Census 2006, usually resident population, total ethnicity
Note: nfd= not further defined, nec= not elsewhere classified

The majority of African people lived in Auckland City (49%), with smaller proportions in Manukau City (17%), Waitakere City (17%) and North Shore City (12%), (Table 11). Ethiopians lived mainly in Auckland City (81%) and some in Waitakere City (14%). Most Somali people lived in Auckland City (84%) and some in Waitakere (14%).

**Table 11: Composition of the main African ethnicities within each territorial authority, Auckland region, Census 2006**

| Ethnic Groups | Data | Auckland City | Franklin District | Manukau City | North Shore City | Papakura District | Rodney District | Waitakere City | Total Auckland region |
|---|---|---|---|---|---|---|---|---|---|
| Ethiopian | n | 546 | 0 | 15 | 18 | 3 | 0 | 90 | 672 |
| | % | 81% | 0% | 2% | 3% | 0% | 0% | 13% | 100% |
| Somali | n | 486 | 0 | 6 | 3 | 0 | 0 | 78 | 573 |
| | % | 85% | 0% | 1% | 1% | 0% | 0% | 14% | 100% |
| Total Africans | n | 2385 | 45 | 834 | 579 | 114 | 60 | 825 | 4842 |
| | % | 49% | 1% | 17% | 12% | 2% | 1% | 17% | 100% |

Source: Census 2006, usually resident population, total ethnicity

### 4.2.2 Middle Eastern people

For the Auckland region, the largest identifiable Middle Eastern ethnicity at Level 4 was Iraqi (22%), followed by Iranian (21%) and Arab (16%), (Table 12).

**Table 12: Middle Eastern ethnicities at Level 4 ethnicity classification, Auckland region, Census 2006**

| Ethnic Groups | n | % |
|---|---|---|
| Iraqi | 2325 | 21.7 |
| Iranian/Persian | 2220 | 20.7 |
| Arab | 1701 | 15.9 |
| Middle Eastern nfd | 1251 | 11.7 |
| Assyrian | 684 | 6.4 |
| Israeli/Jewish | 645 | 6.0 |
| Egyptian | 486 | 4.5 |
| Kurd | 480 | 4.5 |
| Lebanese | 423 | 3.9 |
| Turkish | 306 | 2.9 |
| Syrian | 117 | 1.1 |
| Jordanian | 75 | 0.7 |
| Middle Eastern nec | 63 | 0.6 |
| Palestinian | 60 | 0.6 |
| Algerian | 54 | 0.5 |
| Moroccan | 39 | 0.4 |
| Tunisian | 12 | 0.1 |
| Libyan | 9 | 0.1 |
| Yemeni | 9 | 0.1 |
| Omani | 6 | 0.1 |
| Total Middle Eastern | 10719 | 100.0 |

Source: Census 2006, usually resident population, total ethnicity
Note: nfd= not further defined, nec= not elsewhere classified

Most Middle Eastern people lived in Manukau City (30%), followed by Auckland City (28%) and North Shore City (23%), (Table 13). Iranians lived mainly in Auckland City (42%) and some in Waitakere City (22%). Most Iraqi people lived in Manukau City (49%) and North Shore City (27%). 31% of Arab people lived in North Shore City, 29% in Auckland City and 27% in Manukau City.

**Table 13: Composition of the main Middle Eastern ethnicities within each territorial authority, Auckland region, Census 2006**

| Ethnic Groups | Data | Auckland City | Franklin District | Manukau City | Papakura District | North Shore City | Rodney District | Waitakere City | Total Auckland region |
|---|---|---|---|---|---|---|---|---|---|
| Arab | n | 504 | 15 | 453 | 21 | 528 | 12 | 168 | 1701 |
| | % | 30% | 1% | 27% | 1% | 31% | 1% | 10% | 100% |
| Iranian/ Persian | n | 930 | 6 | 288 | 45 | 438 | 24 | 489 | 2220 |
| | % | 42% | 0% | 13% | 2% | 20% | 1% | 22% | 100% |
| Iraqi | n | 279 | 0 | 1140 | 63 | 627 | 0 | 216 | 2325 |
| | % | 12% | 0% | 49% | 3% | 27% | 0% | 9% | 100% |
| Total Middle Eastern | n | 3114 | 51 | 3330 | 294 | 2568 | 105 | 1503 | 10965 |
| | % | 28% | 1% | 30% | 3% | 23% | 1% | 14% | 100% |

Source: Census 2006, usually resident population, total ethnicity

### 4.2.3 Latin American people

For the Auckland region, the largest Latin American group was 'Latin American not further defined' (39%), (Table 14). This category contained responses that were not specific but were able to be placed in a broader category in the ethnicity classification i.e. Latin American. The next largest identifiable Latin American ethnicity was Brazilian (19%), followed by Chilean (14%), and Argentinean (7%).

**Table 14: Latin American ethnicities at Level 4 ethnicity classification, Auckland region, Census 2006**

| Ethnic Groups | n | % |
|---|---|---|
| Latin American nfd | 1197 | 38.6 |
| Brazilian | 579 | 18.7 |
| Chilean | 438 | 14.1 |
| Argentinean | 216 | 7.0 |
| Peruvian | 192 | 6.2 |
| Mexican | 174 | 5.6 |
| Colombian | 120 | 3.9 |
| Latin American nec | 39 | 1.3 |
| Bolivian | 36 | 1.2 |
| Puerto Rican | 27 | 0.9 |
| Uruguayan | 24 | 0.8 |
| Venezuelan | 15 | 0.5 |
| Guyanese | 12 | 0.4 |
| Ecuadorian | 9 | 0.3 |
| Guatemalan | 9 | 0.3 |
| Honduran | 9 | 0.3 |
| Costa Rican | 6 | 0.2 |
| Total Latin American | 3102 | 100.0 |

Source: Census 2006, usually resident population, total ethnicity
Note: nfd= not further defined, nec= not elsewhere classified

Most Latin Americans lived in Auckland City (44%), followed by Manukau (17%) and North Shore City (17%), (Table 15). Argentineans mainly lived in Auckland City (56%) and North Shore City (17%). Most Brazilians lived in Auckland City (60%) and North Shore City (16%). Chileans mainly lived in Auckland City (32%), Waitakere City (29%) and Manukau City (19%).

**Table 15: Composition of the main Latin American ethnicities within each territorial authority, Auckland region, Census 2006**

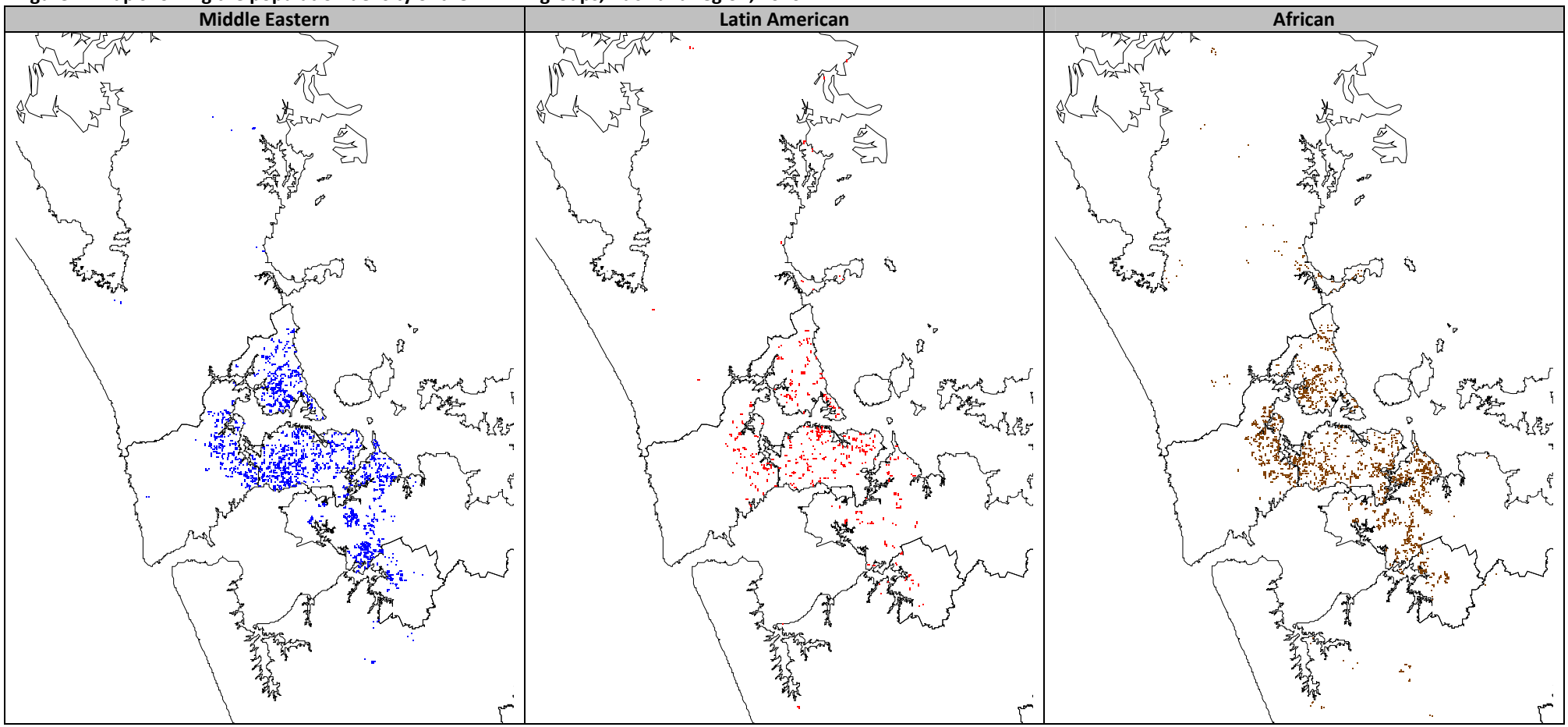
| Ethnic Groups | Data | Auckland City | Franklin District | Manukau City | Papakura District | North Shore City | Rodney District | Waitakere City | Total Auckland region |
|---|---|---|---|---|---|---|---|---|---|
| Argentinean | n | 120 | 0 | 30 | 9 | 36 | 9 | 12 | 216 |
| | % | 56% | 0% | 14% | 4% | 17% | 4% | 6% | 100% |
| Brazilian | n | 345 | 6 | 39 | 9 | 93 | 27 | 60 | 579 |
| | % | 60% | 1% | 7% | 2% | 16% | 5% | 10% | 100% |
| Chilean | n | 138 | 6 | 84 | 21 | 48 | 15 | 126 | 438 |
| | % | 32% | 1% | 19% | 5% | 11% | 3% | 29% | 100% |
| Total Latin Americans | n | 1365 | 33 | 516 | 81 | 513 | 138 | 456 | 3102 |
| | % | 44% | 1% | 17% | 3% | 17% | 4% | 15% | 100% |

Source: Census 2006, usually resident population, total ethnicity

## 4.3 MELAA population density in the Auckland region

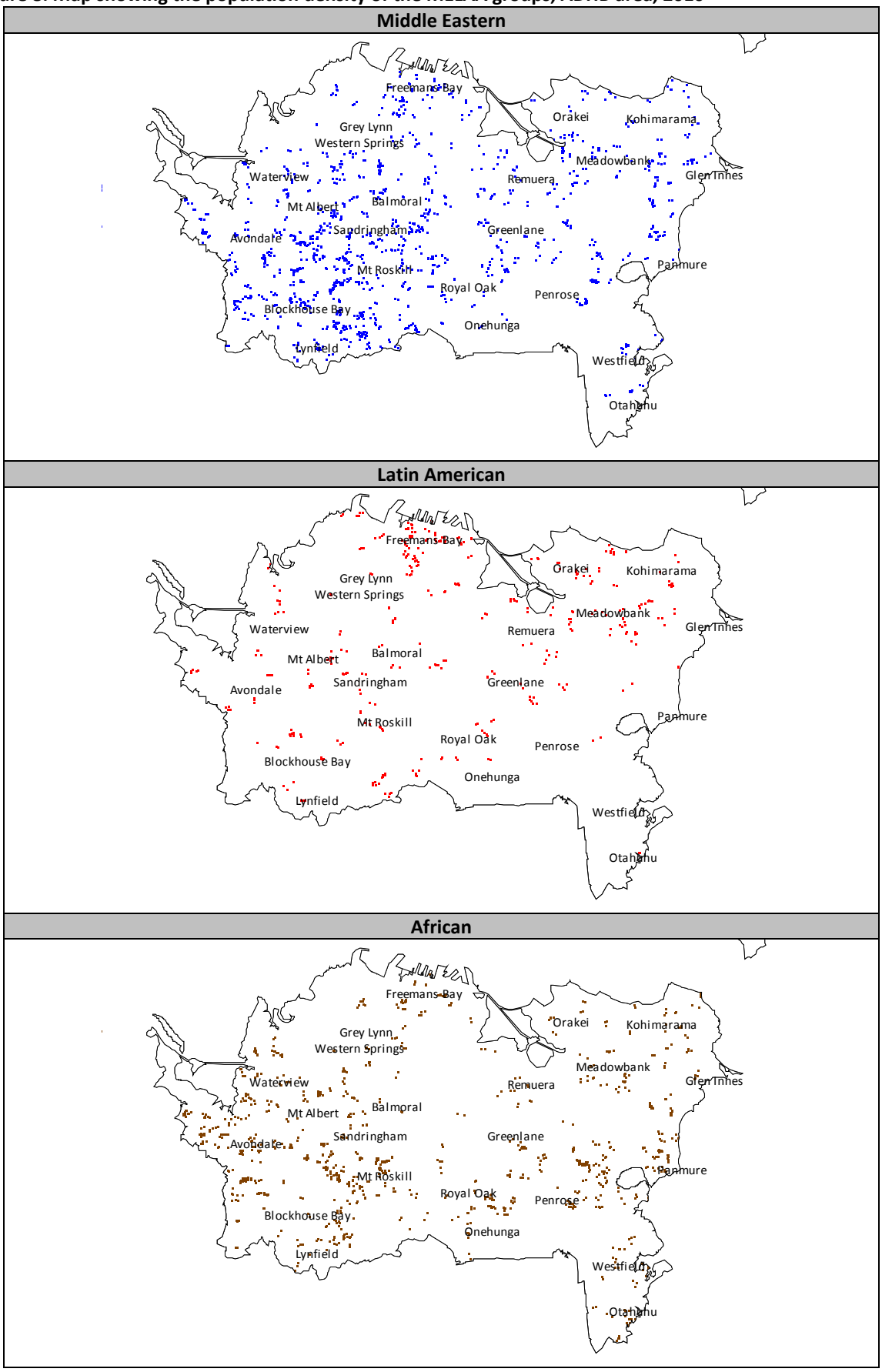
The following maps show the distribution of each MELAA group at Level 2 ethnicity classification within the Auckland Region and by each District Health Board for 2010. Only the areas where most of the MELAA populations reside are shown on the maps to ensure the best detail is maintained when viewing the maps.

**Figure 7: Map showing the population density of the MELAA groups, Auckland region, 2010**



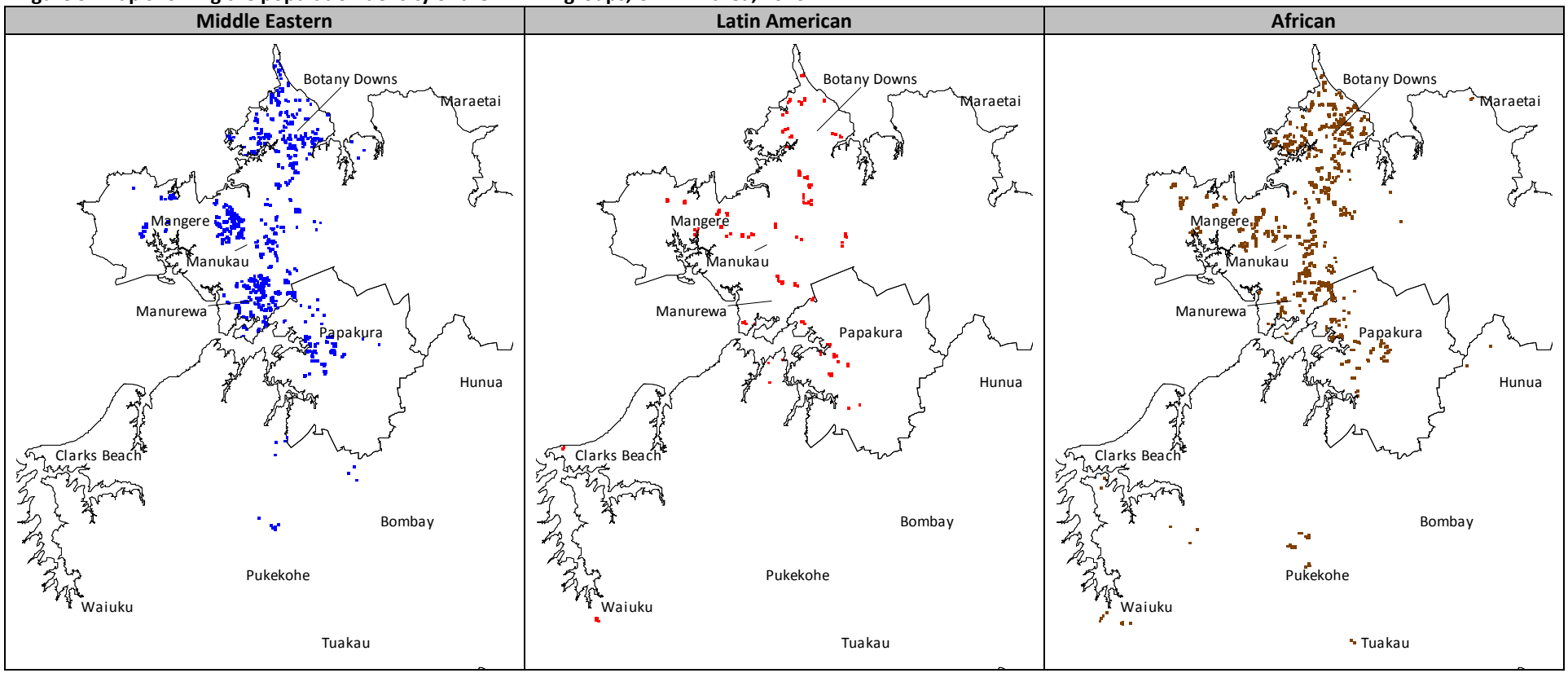

Source: PHO enrolment data, quarter 2, 2010. Custom prioritised ethnicity.
Note: Each dot represents one individual.

**Figure 8: Map showing the population density of the MELAA groups, ADHB area, 2010**



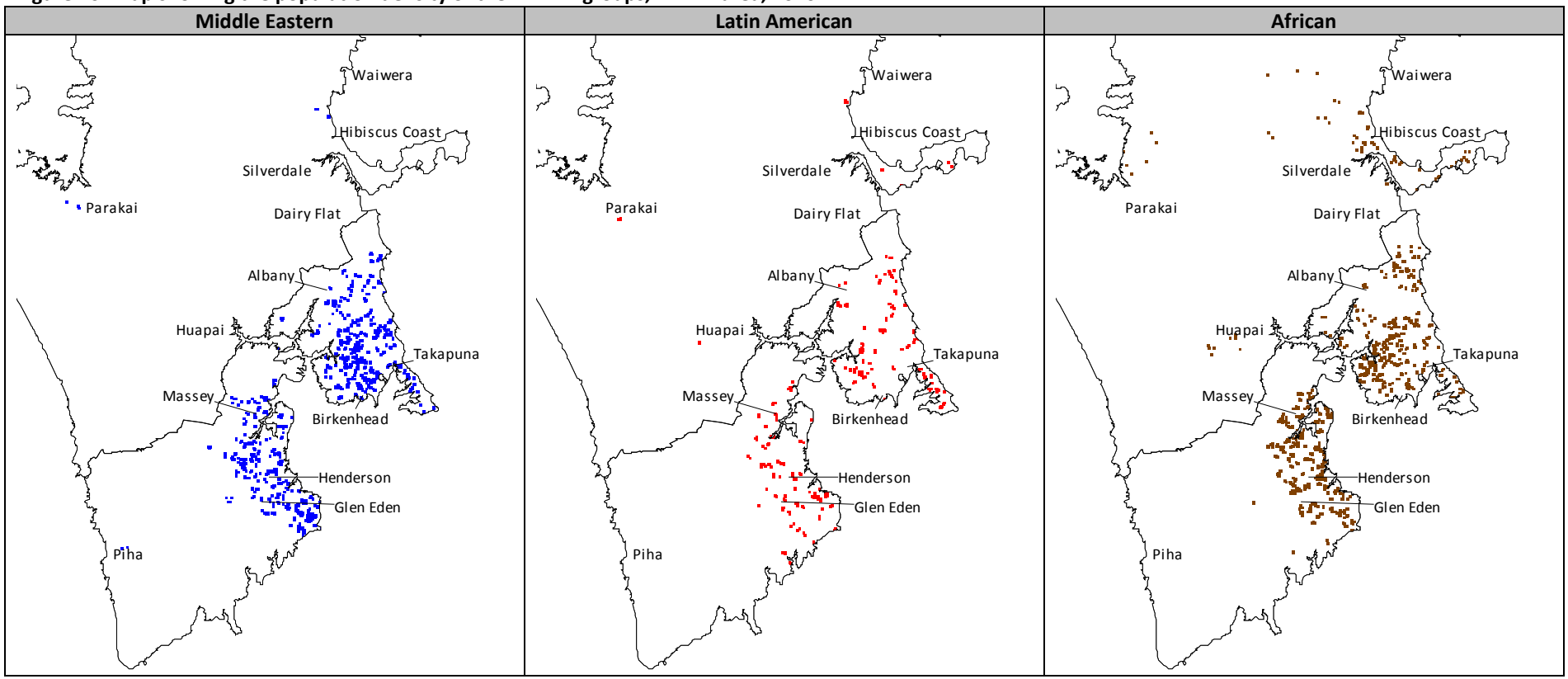

Source: PHO enrolment data, quarter 2, 2010. Custom prioritised ethnicity.
Note: Each dot represents one individual. Only areas where the majority of MELAA live are shown above.

**Figure 9: Map showing the population density of the MELAA groups, CMDHB area, 2010**




Source: PHO enrolment data, quarter 2, 2010. Custom prioritised ethnicity.
Note: Each dot represents one individual. Only areas where the majority of MELAA live are shown above.

**Figure 10: Map showing the population density of the MELAA groups, WDHB area, 2010**




Source: PHO enrolment data, quarter 2, 2010. Custom prioritised ethnicity.
Note: Each dot represents one individual. Only areas where the majority of MELAA live are shown above.

## 4.4 MELAA population growth

Data from the PHO enrolment is presented below as a proxy indicator for MELAA population growth.

Table 16 shows the differences in the numbers of enrolled populations from 2006 to 2010 at Level 2 ethnicity classification. The Latin American population had the largest average enrolment growth per annum of 13% (mainly in the Auckland and Waitemata DHB areas). The African population had an enrolment growth of 8% (mainly in the Waitemata DHB area). The Middle Eastern population had an average enrolment growth per annum of 5% (mainly in the Auckland DHB area). These figures are all much higher than the average enrolment growth for Others in the Auckland region of 1% (not shown in the table).

The MELAA population have had a much higher average annual enrolment growth than Others, which may indicate a proportional rise in the actual population growth. The Latin American population may have the largest population growth from 2006 to 2010 compared with African and Middle Eastern people.

**Table 16: Comparison between PHO enrolled populations in 2006(quarter 2) and 2010 (quarter 2), at Level 2 ethnicity for the MELAA population, by District Health Boards (DHB), Auckland region**

| Ethnicity | Funding DHB | 2006 Q2 | 2010 Q1 | Increase from 2006 to 2010 | Average annual increase |
|---|---|---|---|---|---|
| African | Auckland | 2,943 | 3,879 | 32% | 7% |
| | Counties Manukau | 3,185 | 4,238 | 33% | 7% |
| | Waitemata | 2,174 | 3,257 | 50% | 11% |
| **African Total** | | **8,302** | **11,374** | **37%** | 8% |
| Latin American | Auckland | 787 | 1,348 | 71% | 14% |
| | Counties Manukau | 511 | 631 | 24% | 5% |
| | Waitemata | 504 | 936 | 86% | 17% |
| **Latin American Total** | | **1,802** | **2,915** | **62%** | 13% |
| Middle Eastern | Auckland | 4,325 | 6,570 | 52% | 11% |
| | Counties Manukau | 5,132 | 4,747 | -8% | -2% |
| | Waitemata | 2,412 | 3,031 | 26% | 6% |
| **Middle Eastern Total** | | **11,869** | **14,348** | **21%** | 5% |
| **MELAA Total** | | **21,973** | **28,637** | **30%** | 7% |

Source: NDSA, PHO enrolment data mart, custom prioritised ethnicity
Others= non MELAA, non Maori, non Pacific

## 4.5 MELAA population projections

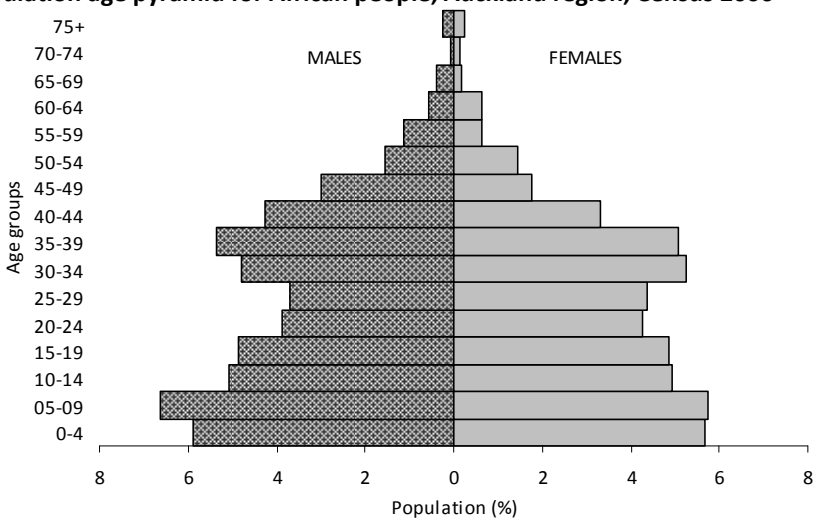
Statistics New Zealand does not provide estimated projected population growth for ethnicities other than European, Maori, Pacific and Asian groups.(25) For smaller ethnic populations it is difficult to derive robust measures of fertility and mortality and the other components of ethnic population change to enable projections to be produced. There is significant uncertainty about the components of population change when performing population projections based on ethnicity such as the change in fertility and mortality over time. Assumptions about future migration are particularly susceptible to changes in immigration policy, especially in the MELAA population. Because of these issues, projected population size has not been attempted to be calculated for the MELAA group.

## *4.6 Population age structure*

### 4.6.1 Census 2006 population age structures

The population age pyramids for each MELAA ethnicity group is shown below (Figure 11 to Figure 13), from Census 2006 data. The European population age structure is shown in Figure 14 as a comparison.

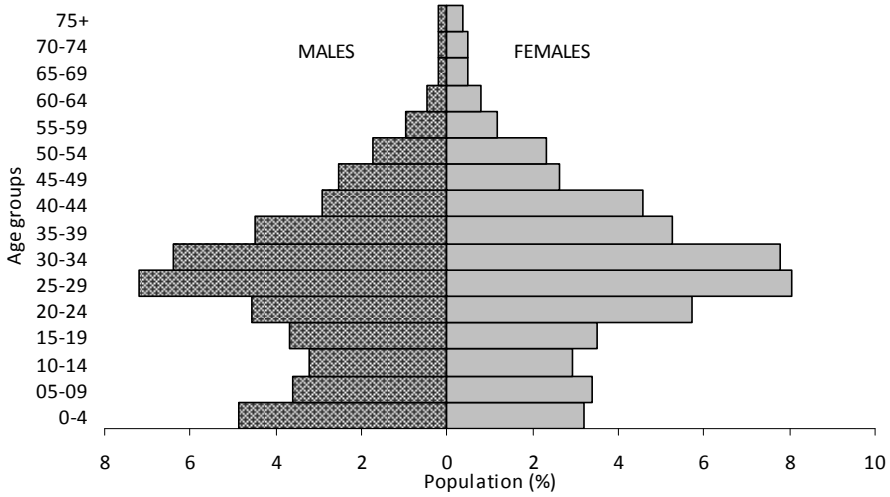
**Figure 11: Population age pyramid for African people, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006, usually resident population, custom prioritised ethnicity

The population age pyramid for African people in the Auckland region has a wide bottom and an almost inverted V shape. This indicates that the African population was mainly made up of young population. Almost 60% of its total population was less than 30 years of age. The 0- 10 years age band had the greatest proportion of people (24%). The population aged 65+ years was approximately 1% of the total population. Comparing the gender distribution across age groups shows that there were fewer females compared with males from ages 40 years upwards. In this population, the dependents[i] were mainly children.

**Figure 12: Population age pyramid for Latin Americans, Auckland region, Census 2006**

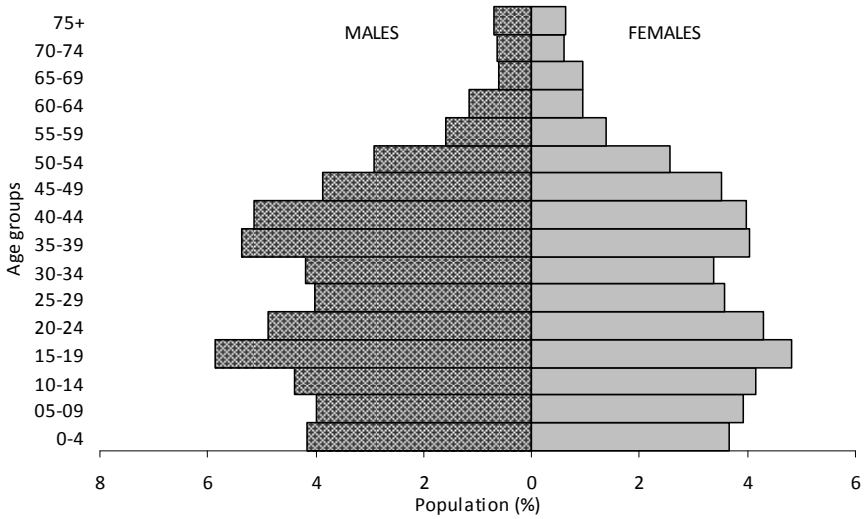



Source: Statistics NZ, Census 2006, usually resident population, custom prioritised ethnicity

The population age pyramid for Latin Americans in Auckland is widest in the middle and narrow at the top and base. They had a lower proportion of older dependents compared with child dependants and had a higher proportion of income earners compared with dependents. 85% of the total population was less than 45 years of age with the 20-34 year olds making up 40% of the population. The proportion of Latin Americans aged ≥60 years was very small compared with all other age groups (3%).

[i] Here, the term 'dependents' is used to define people who are reliant on others for financial support.

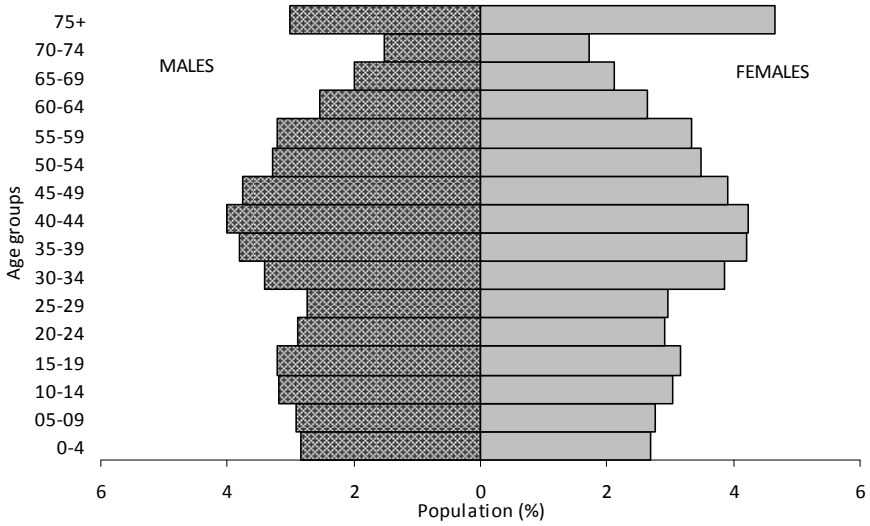
**Figure 13: Population age pyramid for Middle Eastern people, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006, usually resident population, custom prioritised ethnicity

The shape of the population age pyramid for the Middle Eastern population in Auckland is wide in the bottom and in the middle. The population mainly consisted of people younger than 49 years of age (85%). People aged 65+ years made up less than 4% of the total population. Similar to the African population, there was a large proportion of children (aged <15 years, 24%). Overall, there were more men than women in all age bands.

**Figure 14: Population age pyramid for European people, Auckland region, Census 2006**



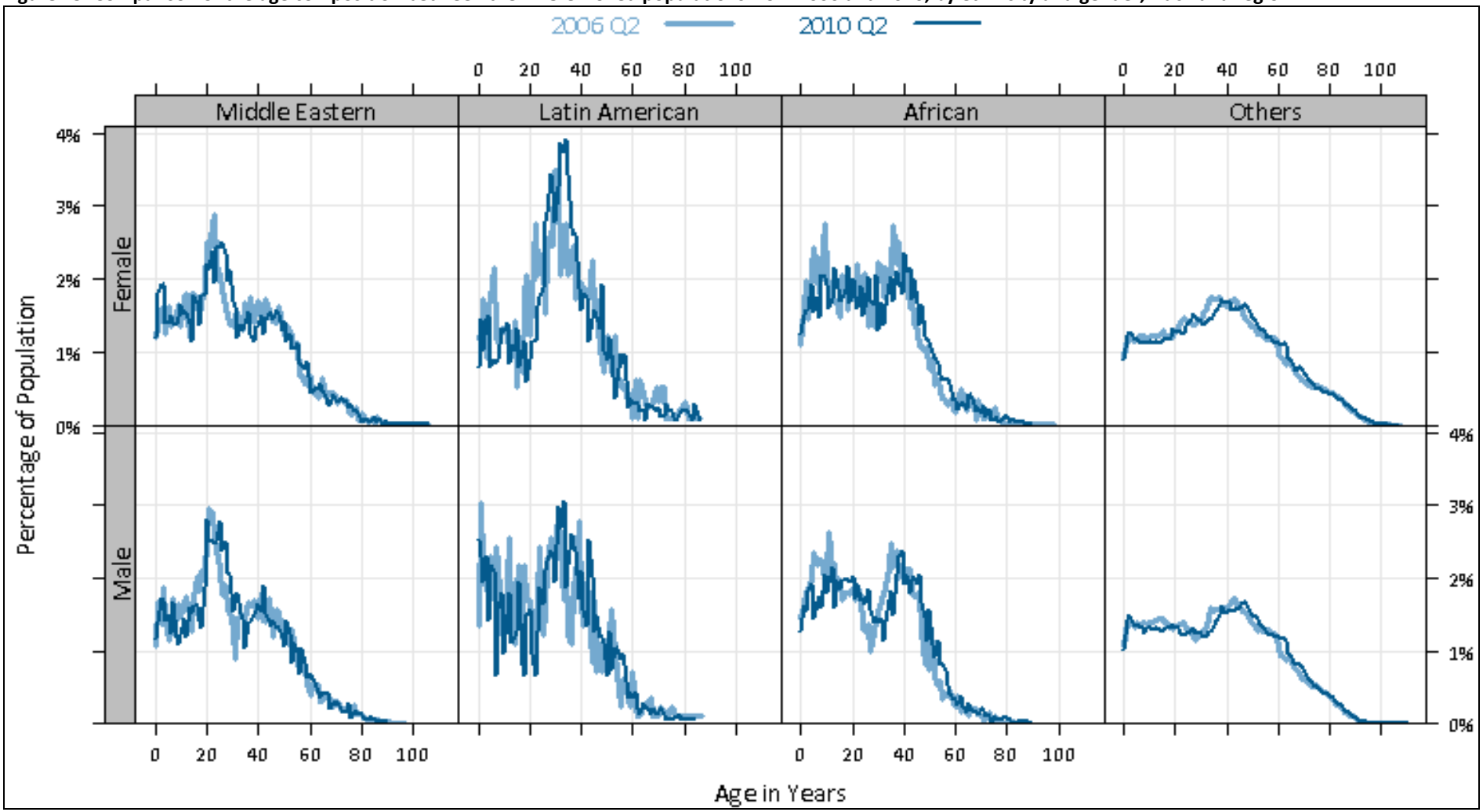

Source: Statistics NZ, Census 2006, usually resident population, custom prioritised ethnicity

The European population had a much larger proportion of people age 75 years plus (8%) than all three MELAA ethnicities (approximately 1%).

Figure 15 shows the changes in age composition by gender and ethnicity in the PHO enrolled populations from 2006 and 2010. It supports the data shown in the population age pyramids as:

- the African and Latin American populations had much smaller proportions of people aged 60 years and over compared with Others
- Latin American people had the highest proportion of people aged 20 to 40 years compared with all ethnicities (especially in females)
- all three MELAA ethnicities had greater proportions of young people compared with Others.

**Figure 15: Comparison of the age composition between the PHO enrolled populations from 2006 and 2010, by ethnicity and gender, Auckland region**

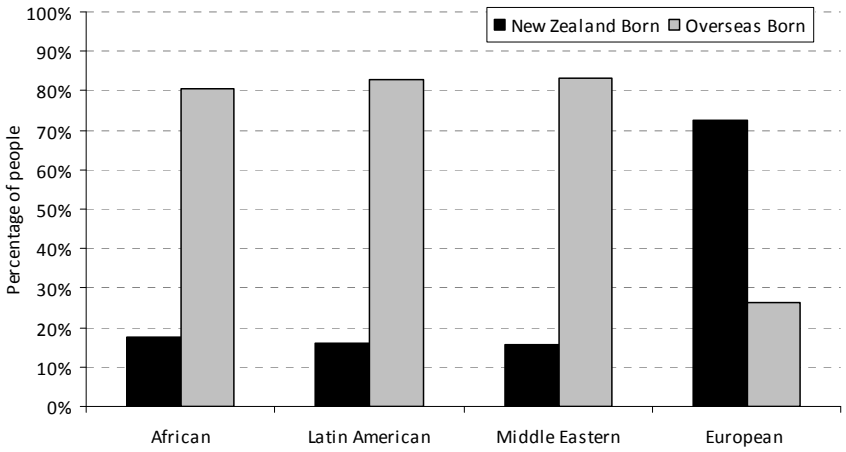



Source: NDSA, PHO enrolment data mart, custom prioritised ethnicity
Others= non MELAA, non Maori, non Pacific

## *4.7 Proportion born in New Zealand or overseas*

Census data was used to evaluate the proportion of people born overseas or in New Zealand by ethnicity (Figure 16). In 2006, all three MELAA ethnicities had approximately 80% of their populations born overseas compared with 25% of Europeans.

**Figure 16: Percentage born overseas or in New Zealand by ethnicity, Census 2006, Auckland region**

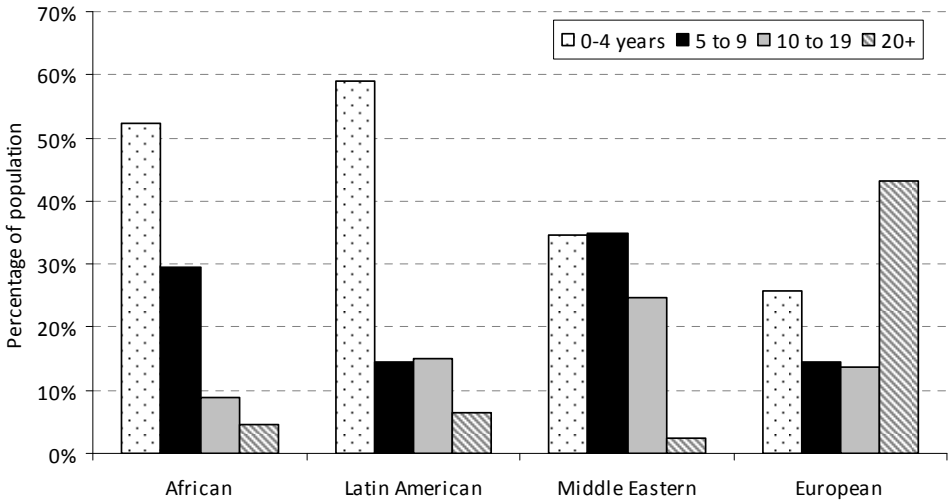



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

## *4.8 Years of residence in New Zealand*

In 2006, more than half of the overseas born Africans and Latin Americans had been in New Zealand less than 5 years (Figure 17). Almost 70% of overseas born Middle Eastern people had been in New Zealand <10 years, with greater proportions than Latin Americans or Africans having lived in New Zealand for 10-19 years.

**Figure 17: Percentage of people by years lived in New Zealand, by ethnicity, in people who were overseas born, Census 2006, Auckland region**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

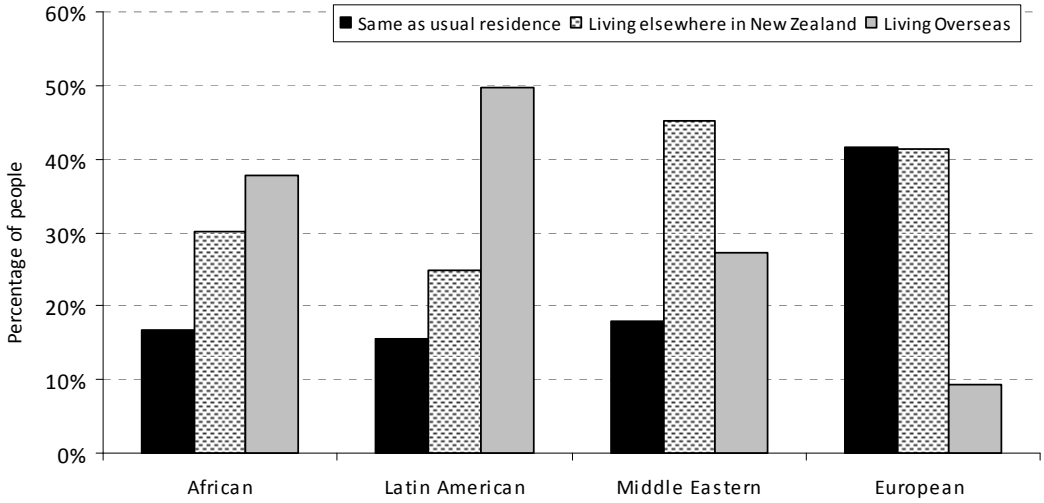
## *4.9 Mobility of population*

Figure 18 shows that most Africans (38%) and Latin Americans (50%) had been living overseas in the five years before Census 2006. Most Middle Eastern people had been living elsewhere in New Zealand other than the usual/same residence (45%) and 25% had lived overseas in the five years before Census 2006.

The MELAA population had greater mobility in domiciled residence than Europeans as a smaller proportion had been living at the same residence in the 5 years prior to Census.

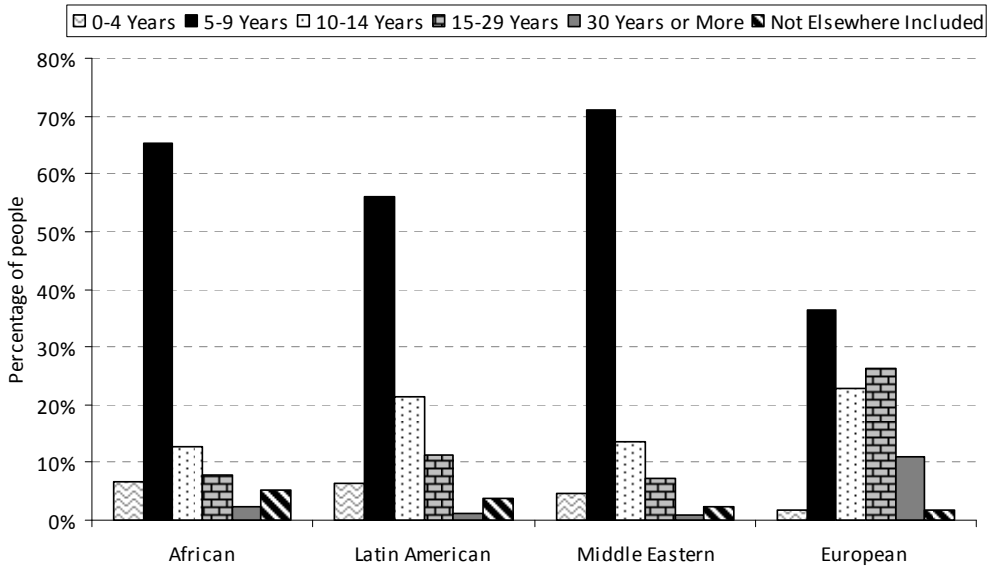
Figure 19 shows that most of the MELAA populations had lived at the same residence for a shorter duration compared with Europeans. Only a small proportion in each group had lived in the same residence for 15 years or more.

**Figure 18: Percentage of people living in the same residence, elsewhere in New Zealand or living overseas, 5 years before Census 2006, by ethnicity, Auckland region**




Source: Statistics New Zealand, Census 2006
Note: Ethnicity according to customised prioritisation

**Figure 19: Percentage of people who had been living in the same residence 5 years prior to Census 2006 by years having lived at the same residence, Auckland region**




Source: Statistics New Zealand, Census 2006
Note: Ethnicity according to customised prioritisation

## *4.10 Summary- population demography*

- Population size
  - In 2006, 1% of New Zealand residents identified as Middle Eastern, Latin American or African and half of them resided within the Auckland region (1.4% of the total population).

  - In 2010, PHO enrolment data shows that the MELAA population has a total of 28,637 persons in Auckland (of which there are 14,348 Middle Eastern, 2,915 Latin Americans and 11,374 Africans).
- Composition of the MELAA ethnicities
  - The largest African group was 'African not further defined' (41%) followed by Ethiopian (14%) and Somali (12%).
  - The largest identifiable Middle Eastern ethnicity was Iraqi (22%), followed by Iranian (21%) and Arab (16%).
  - The largest Latin American group was 'Latin American not further defined' (39%), followed by Brazilian (19%), Chilean (14%), and Argentinean (7%).
- Distribution within each territorial authority
  - The majority of African people in the Auckland region lived in Auckland City (49%). Ethiopians (81%) and Somali (84%) people mainly lived in Auckland City.
  - Most Middle Eastern people lived in Manukau City (30%), followed by Auckland City (28%) and North Shore City (23%) - Iranians mainly in Auckland City (42%), Iraqi mainly in Manukau City (49%) and Arabs in North Shore City (31%).
  - Most Latin Americans live in the Auckland City area (44%) - Argentineans (56%), Brazilians (60%) and Chileans (32%).
- MELAA population growth
  - Data from the PHO enrolment approximated MELAA population growth. Latin Americans had the largest average enrolment growth per annum (13%), followed by the African population (8%) and Middle Eastern people (5%), compared with 1% in Others.
- Population age structure
  - The African population has a young population where almost 60% of its total population was <30 years of age, with the 0-10 years age band having the greatest proportion.
  - 85% of the Latin American population was <45 years of age with the 20-34 year olds making up 40% of the population.
  - The Middle Eastern population mainly consisted of people <49 years of age (85%).
- Proportion born overseas or in New Zealand
  - All MELAA ethnicities had approximately 80% of their populations born overseas compared with 25% of Europeans.
- Years of residence in New Zealand
  - More than half of the overseas born Africans and Latin Americans had been in New Zealand <5 years. Almost 70% of overseas born Middle Eastern people had been in New Zealand <10 years. Middle Eastern people had the highest proportion of people within the MELAA grouping to have lived in New Zealand for 10-19 years.
- Mobility of the population
  - The MELAA population had greater mobility in domiciled residence than Europeans as a smaller proportion had been living at the same residence in the 5 years prior to Census- most Africans and Latin American had been living overseas and most Middle Eastern people had been living elsewhere in New Zealand.

# 5 Socioeconomic determinants of health

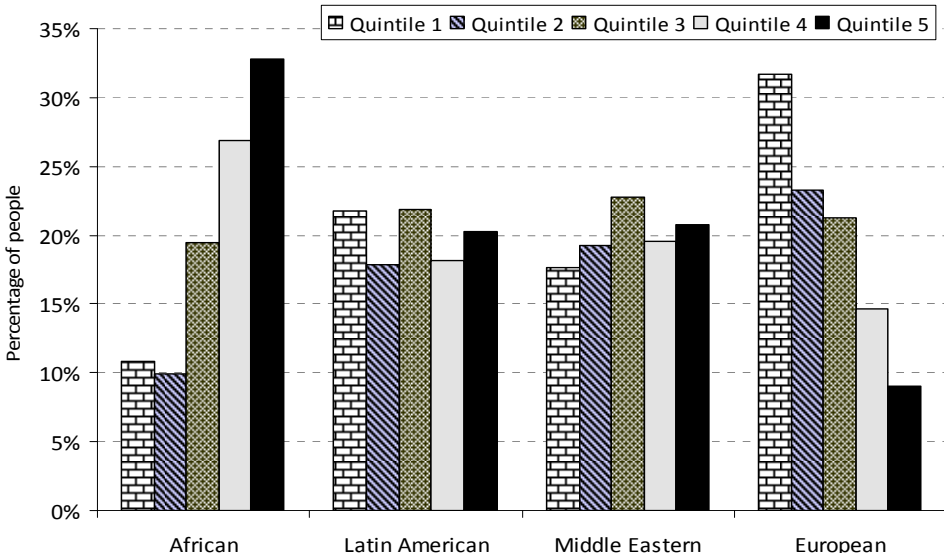
The Ottawa Charter for health promotion states that the fundamental conditions and resources for health include peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity.(26) In order to improve heath, these basic prerequisites need a secure foundation. This chapter summarises the socio-economic determinants of health in order to gain insight on the status of some of these basic health requirements for Middle Eastern, Latin American and African communities living in New Zealand:

- Overall level of socioeconomic status: Deprivation measure
- Shelter: Home ownership, and household crowding
- Income: Personal income and employment
- Education: Level of qualifications
- Social justice and equity: Access to services (transport, telephone, language), religion, discrimination

## *5.1 Deprivation measures*

The New Zealand Deprivation Index 2006 (NZDep 2006) is a summary measure of socioeconomic difference in population health. It is constructed from nine Census 2006 variables and provides a summary deprivation score from 1 to 10 for small areas. The nine census variables summarised by the NZDep score includes receipt of a means-tested benefit, low household income, lack of home ownership, single-parent family makeup, unemployment, lack of qualifications, household crowding, no access to telephone and no access to a car. All these variables are also reported on individually in this chapter. It is useful to know the area measures of deprivation for a population, but this method has some associated weaknesses in that its derivation is complex and may not be applicable to individuals. For ease of analysis, these deprivation scores have been reduced to a five point scale (quintiles) where quintile 1 is the least deprived and quintile 5 is the most deprived.

**Figure 20: Percentage of people by deprivation quintiles, by ethnicity, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

In the Auckland region, African people had the most marked difference between all three MELAA ethnic groups when compared with Europeans (Figure 20). Africans had the highest percentage of people living in areas of high deprivation (>50% live in quintiles 4 and 5) compared with all other ethnicities. Europeans had the lowest percentage of people residing in high deprivation areas and the highest percentage of people living in areas with the least deprivation compared with other ethnicities. Latin American and Middle Eastern people had a more even distribution of people living in all quintiles.

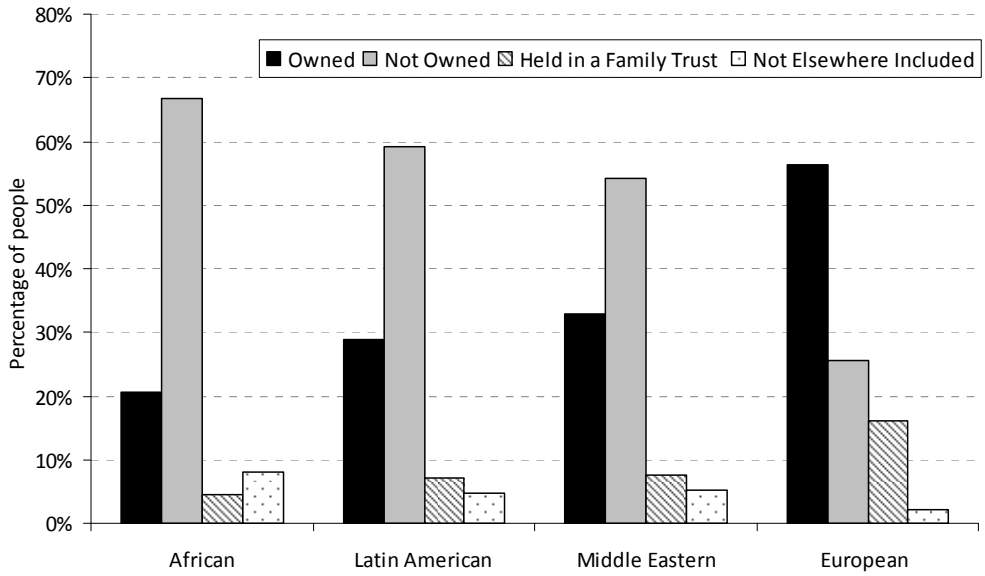
Research has shown that increasing NZDep scores are associated with increasing total mortality.(27) Compared with communities living in areas of lower deprivation, communities living in areas of higher deprivation are associated with having higher use of general practitioner services(28), increased total hospitalisations(29) and increased potentially avoidable hospitalisations from conditions that are amenable to better primary and outpatient care.(30) Communities with higher deprivation have also been associated with having increased cardiovascular disease risk factors, diabetes(28) and nutritionally inadequate and unsafe foods.(31)

## *5.2 Housing conditions*

### 5.2.1 Home ownership

Home owner occupiers compared with renters have been found to have reduced all cause mortality(32) and more positive self assessments of general health.(33)

**Figure 21: Percentage of people by description of household tenureship, by ethnicity, Auckland region, Census 2006**



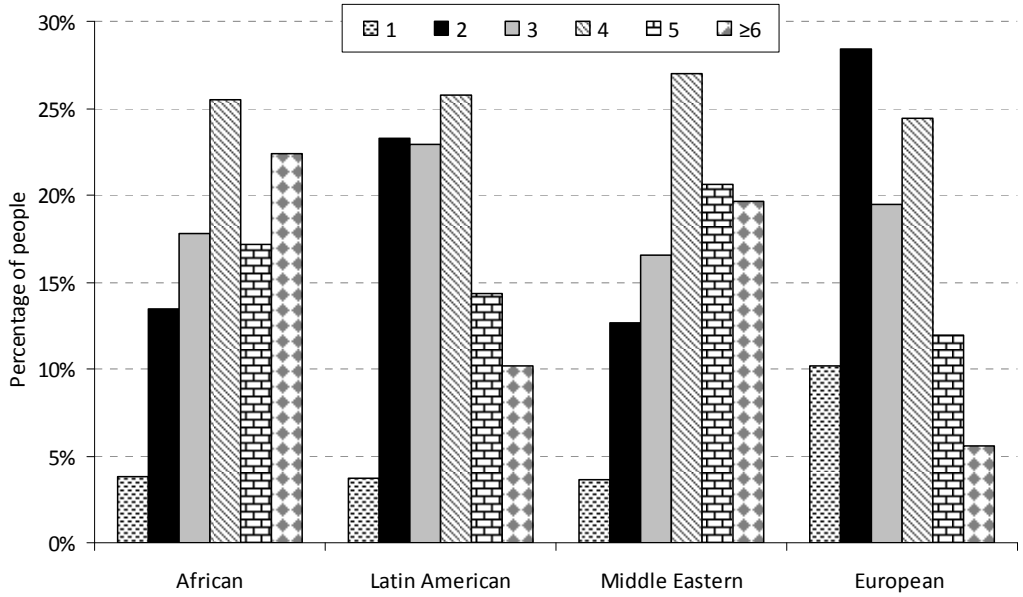

Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

In the Auckland region, African, Latin American and Middle Eastern people had a lower percentage of home owner occupiers than Europeans (Figure 21). The greatest difference was between Africans and Europeans in home ownership.

### 5.2.2 Household crowding

Housing space influences a family's health and quality of life. Studies have shown an association between household crowding and meningococcal disease(34), poor educational attainment, and psychological distress.(35) Although not presenting a formal measure of crowding, Figure 22 and Figure 23 give an idea on what the housing situation might be for the MELAA community.

**Figure 22: Percentage of people by described number of usual residents in households by ethnicity, Auckland region, Census 2006**

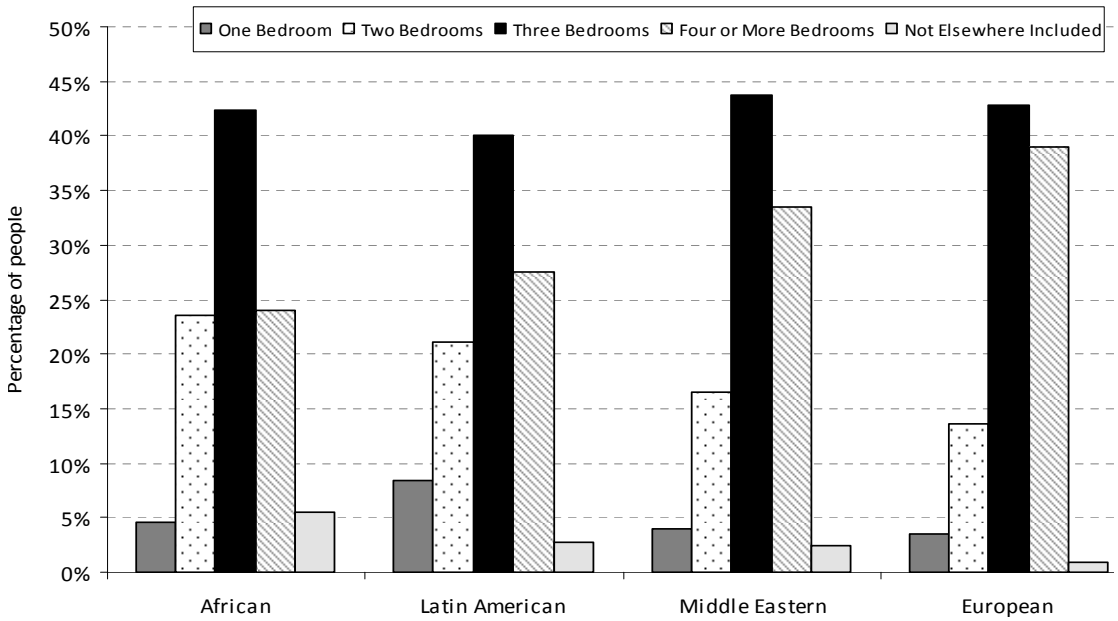



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

For African people, approximately 23% described having ≥6 people as usual residents in a household (Figure 22). This figure was about 5% in Europeans.

All MELAA ethnicities may live in more crowded circumstances than Europeans. MELAA had the lowest percentage of people living in houses with ≥4 bedrooms, but higher proportions of people having ≥6 residents per household compared with Europeans. The situation may affect African people the most as they had the largest proportion of people living in a household with ≥6 people and the lowest proportion of people living in a home with ≥ 4 bedrooms

**Figure 23: Percentage of people describing the number of bedrooms in their households, by ethnicity, Auckland region, Census 2006**

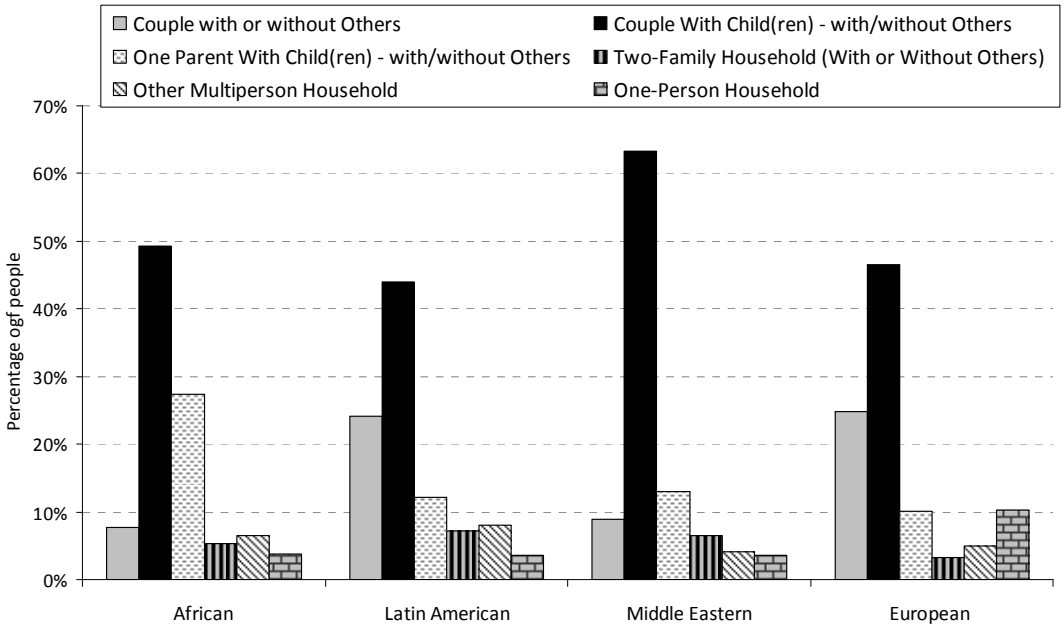



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

### 5.2.3 Household composition

Figure 24 shows that in Auckland, the largest proportion of people in each ethnicity lived in a household which consists of a couple with children, with Middle Eastern people having the highest proportion (62%). African people had the largest proportion of people living in a household consisting of one parent with children compared to all other ethnicities (27% versus approximately 10% in all other ethnicities). Europeans had the largest percentage of one person households compared with all other ethnicities.

**Figure 24: Percentage of the people by household compositions in private dwellings, by ethnicity, Auckland region, Census 2006**

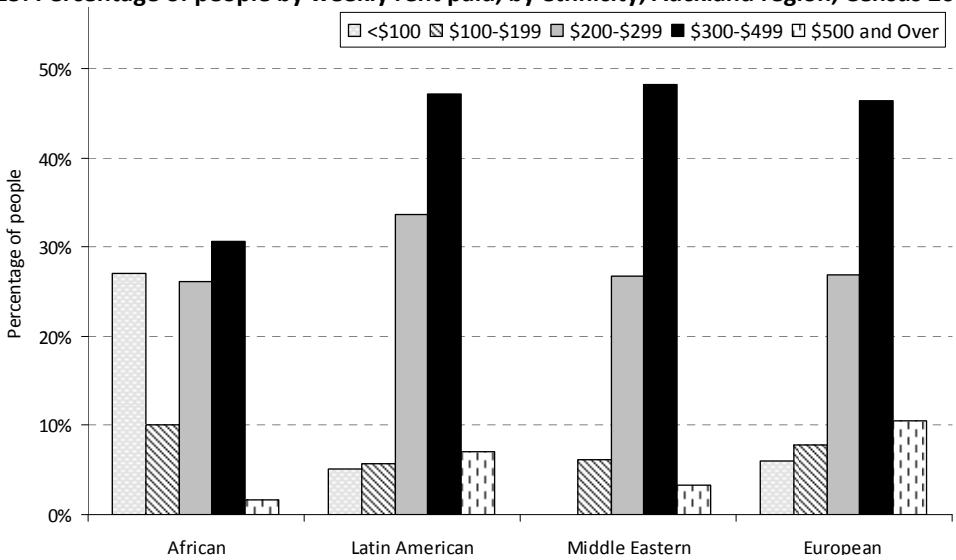



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

### 5.2.4 Rental

Figure 21 showed that most people in the MELAA ethnicities do not own the homes they live in. Figure 25 shows that most people pay a weekly rent of $300-$499. The pattern of rental payment amount varied the least in the African population. They had a larger proportion of people paying a weekly rent of <$100 which may be a reflection of the type and location of their dwelling.

**Figure 25: Percentage of people by weekly rent paid, by ethnicity, Auckland region, Census 2006**

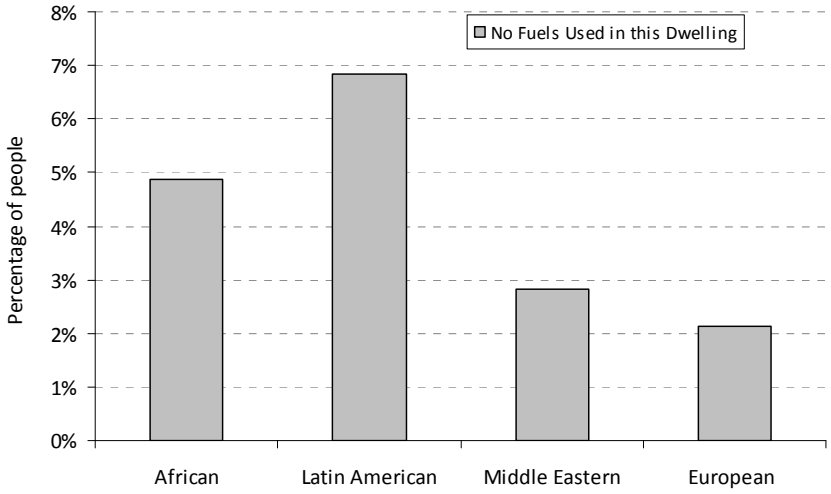



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

### 5.2.5 Access to household heating

Warmer, drier indoor environments are associated with better self rated health, days off school and work and fewer visits to general practitioners.(36) In Auckland, >70% of people in each ethnic group reported using electricity as the main mode of heating their households. Approximately 7% of Latin American people and 5% of African people reported no fuels used in heating their dwelling compared with 2% Europeans (Figure 26).

**Figure 26: Percentage of people by type of energy used in heating their dwelling, by ethnicity, Auckland region, Census 2006**



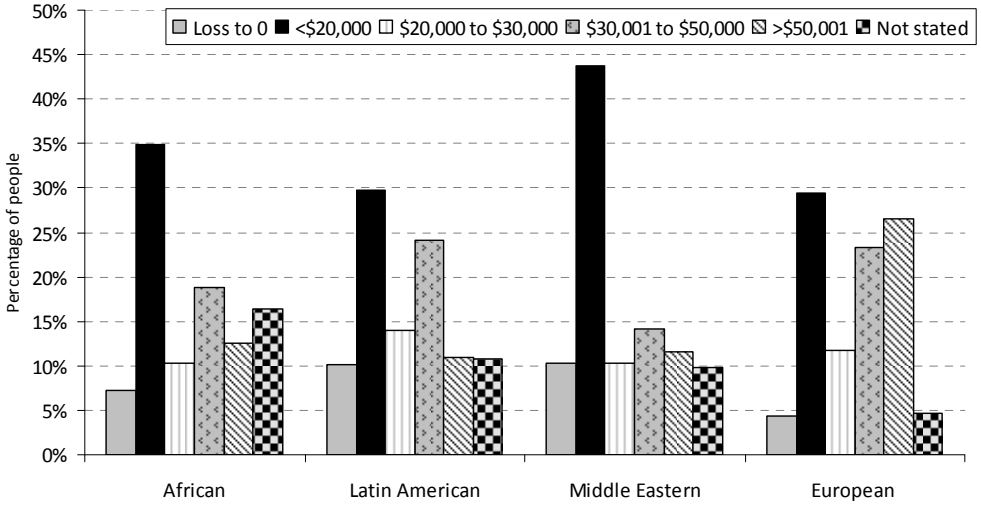

Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

## *5.3 Income*

### 5.3.1 Personal income

Most Africans (35%), Latin Americans (30%), Middle Eastern people (44%) and Europeans (29%) had an annual personal income of <$20,000 (Figure 27). Africans and Middle Eastern people had much lower proportions of people in the ≥$20,000 income per annum compared with Europeans. Middle Eastern people had the lowest mean income of $23,400 within MELAA (mean income was $26,300 for both African and Latin American groups). Europeans had a mean income of $38,700.

**Figure 27: Percentage of people (15+years), by annual personal income (before tax), by ethnicity, Census 2006, Auckland region**

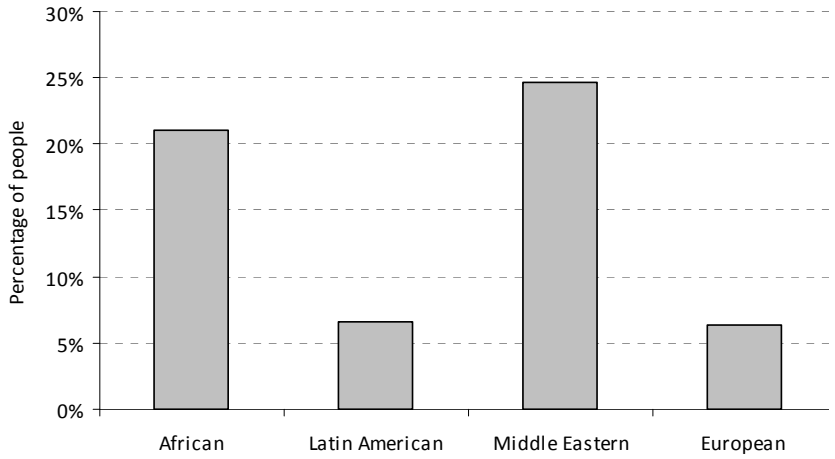



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

### 5.3.2 Benefit receipt

In Auckland, Middle Eastern people (25%) had the highest percentage of people on any benefit compared to all other ethnicities, followed by African people (21%), (Figure 28). Europeans and Latin Americans had a similar low proportion of people on a benefit (approximately 6%).

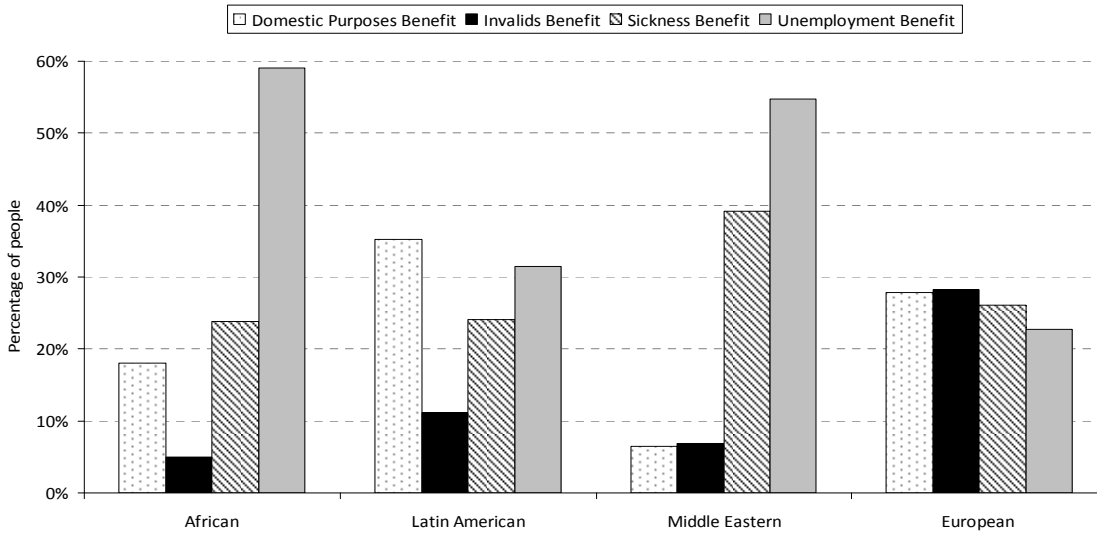
**Figure 28: Percentage of people in the Auckland region, aged 15+, that receive any benefit (all benefits combined), by ethnicity, Census 2006**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

Figure 29 shows the proportion of people on any benefit by the different types of benefits. Almost 60% of Africans and 55% of Middle Eastern people on a benefit were on the unemployment benefit. 40% of Middle Eastern people on a benefit were on a sickness benefit, higher than all other ethnicities. About 35% of Latin Americans on a benefit were on a domestic purposes benefit, higher than all other ethnicities. All MELAA ethnicities had much lower proportions of people on the invalids benefit compared with Europeans.

**Figure 29: Percentage of people in the Auckland region, aged 15+ years, on any benefit, by the type of benefit they receive, by ethnicity, Census 2006**

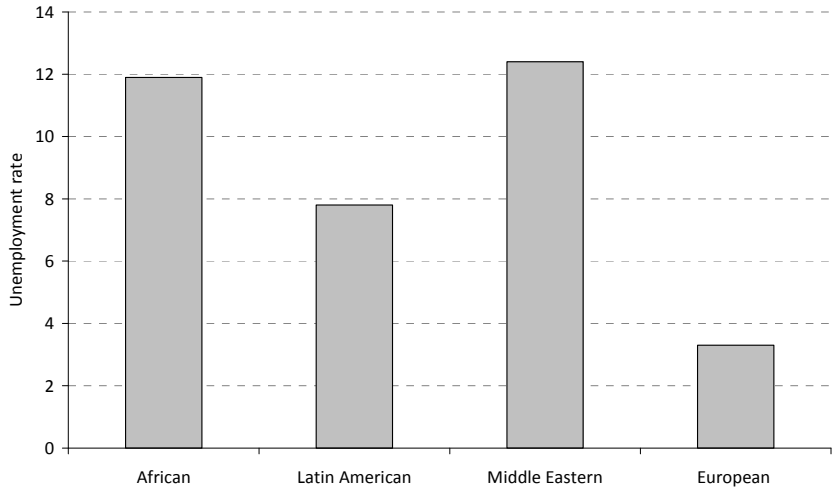



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

### 5.3.3 Employment

Unemployment is shown to be associated with higher levels of premature mortality, depression and greater use of health care services.(37-39)

**Figure 30: Unemployment rate, in people aged 15+ years, by ethnicity, Auckland region, Census 2006**



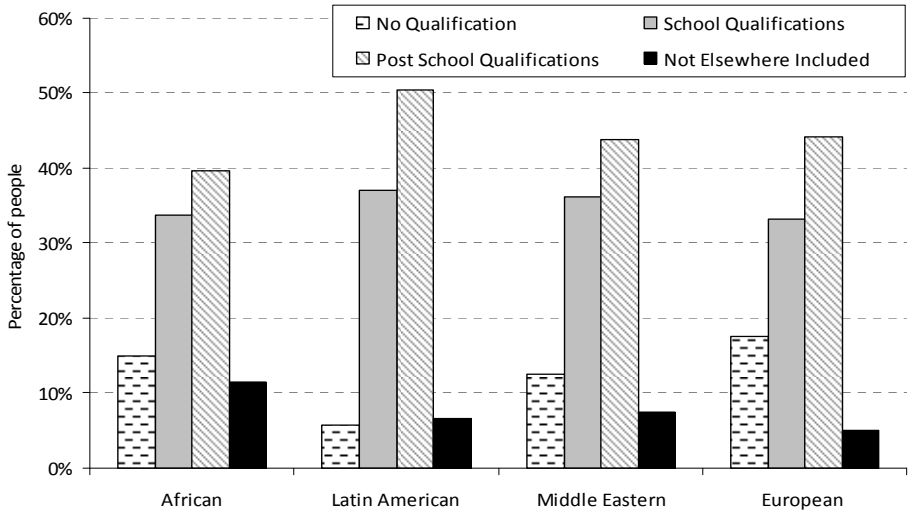

Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

The unemployment rate was much higher in all MELAA groups compared with Europeans. African and Middle Eastern populations had similar rates that were almost fourfold higher than Europeans (Figure 30).

## *5.4 Education*

Education and literacy are associated positively with improved health outcomes.(40, 41) Figure 31 shows the highest level of education attained by ethnicity in the Auckland region. European people had the highest proportion of people with no qualifications (18%), with Latin Americans having the lowest proportion (6%). Latin Americans (50%) had the largest proportion of people with post school qualifications compared with all other ethnicities. Middle Eastern people and Europeans had similar proportions of people with post school qualifications (44%). Despite having similar levels of secondary school qualifications to Europeans, Middle Eastern and African people had a higher rate of unemployment (Figure 30). Latin Americans had a higher percentage of school and post school qualification than Europeans but still had a higher rate of unemployment. Refugees and migrants have often voiced difficulties in finding employment in new countries, especially as their prior overseas qualifications and work experiences are not usually recognised(42).

**Figure 31: Percentage of people in the Auckland region, aged 15+ years, by highest level of secondary school qualifications, by ethnicity, Census 2006**



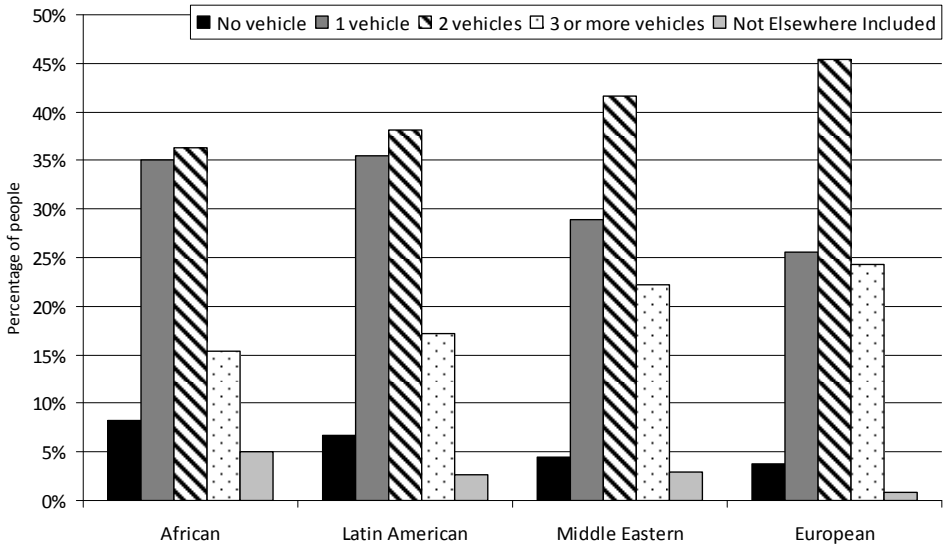

Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

## *5.5 Access to a car*

Car ownership can be viewed as a proxy indicator of access to social support and health services.

In Auckland, African people had the highest proportion of people with no vehicles compared with all other ethnicities and almost double that of Europeans (Figure 32). Most people described having 1 to 2 vehicles and Europeans had the highest proportion of people with 3 or more vehicles.

**Figure 32: Percentage of people describing car ownership by ethnicity, Auckland region, Census 2006**



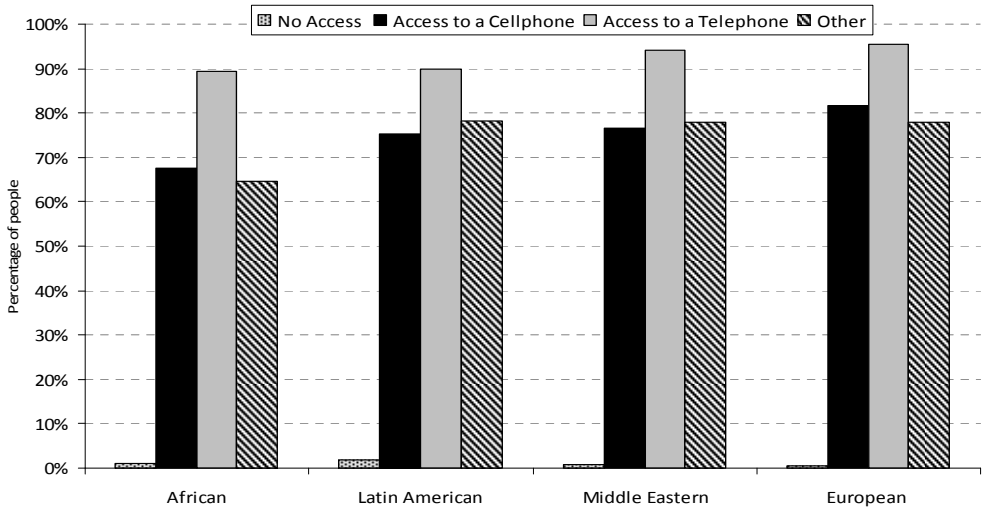

Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

## *5.6 Access to a phone*

Accessing health services usually requires the use of a phone to make appointments or call for help.

In Auckland, the percentage of people with no access to a form of telecommunication at their usual dwelling appears minimal and evenly distributed between ethnicities. A majority have access to a cell phones and telephones in their homes. The data suggests that access to a phone is not a significant barrier to accessing health care services in Auckland.

**Figure 33: Percentage of people with access to telecommunication by ethnicity, Auckland region, Census 2006**



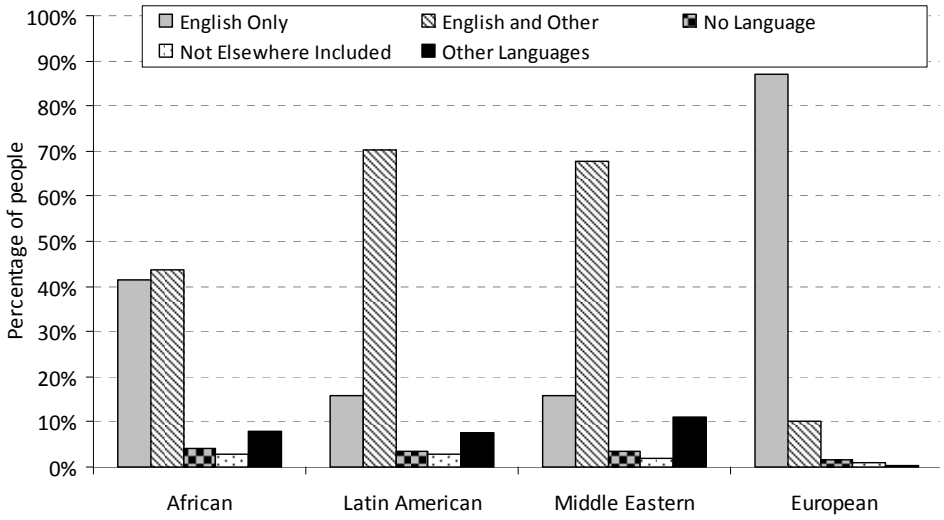

Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

## *5.7 Languages*

### 5.7.1 English language competency

In New Zealand, English language competency is an important factor to enhancing integration with mainstream society as well as accessing and engaging with health and social services.

**Figure 34: Percentage of people by languages spoken, by ethnicity, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

Figure 34 shows that more than 80% of the MELAA group spoke English and most were multilingual. Few people in each ethnicity spoke no English and only other languages (11% in Middle Eastern people, 8% in Latin Americans and 8% in Africans).

A majority of the MELAA population were able to converse in English when having conversations about a lot of everyday things, however the Census question on spoken language does *not* provide any detail on proficiency of spoken English language (especially when having a conversation about health related issues). It should not be assumed that being conversant in English equates to being able to have meaningful and productive consultations with health service providers without interpreters. Most health service providers emphasise language difficulties and cultural misunderstanding as being key barriers to engaging with MELAA clients (see Chapter 13).

**"Language is a huge problem as most still have poor English skills and struggle to communicate."**

**"In Somalia, only in 1972 was there a written language. Thus many of the Somali women may not be able to read or write in their own language (let alone English). Hence educational information or resources provided at clinics or hospitals may be ineffective for these groups as many may be pre-literate."**

**"A patient seen by a psychiatrist will not understand why they ask them many intimate questions and fear it may affect their refugee or residency status and will fail to engage with the clinician. They find it hard to understand. They feel they are being asked too many questions. These patients need to be educated on why these questions need to be asked."**

**"Usually the lack of cultural understanding by the health care provider is a barrier to these patients. Health care providers need to be exposed to multiethnic areas."**

**Figure 35: Percentage of conversant African people, by types of languages spoken (other than English), Auckland region, Census 2006**

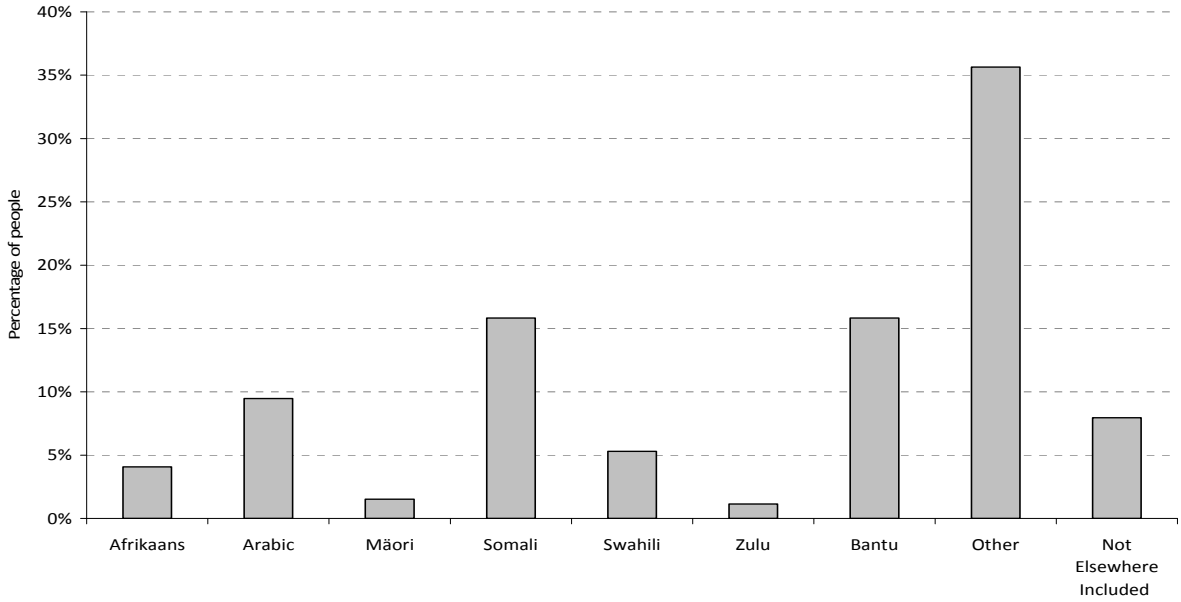
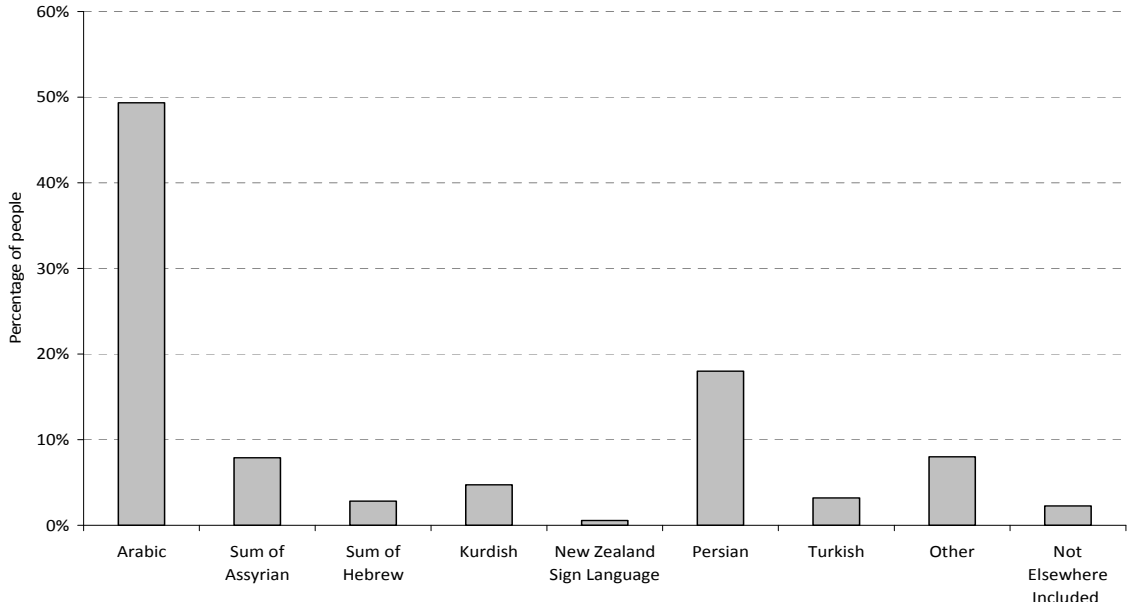



Figure 35 and Figure 36 show the other types of languages spoken by African and Middle Eastern people respectively. Almost 50% of Middle Eastern people spoke Arabic and Africans spoke several different languages (this reflects their diverse cultures and backgrounds). SNZ is unable to provide the main types of languages spoken by Latin Americans as data was not available for Spanish or Portuguese speakers (which would be grouped under other languages).

**Figure 36: Percentage of conversant Middle Eastern people, by types of languages spoken (other than English), Auckland region, Census 2006**

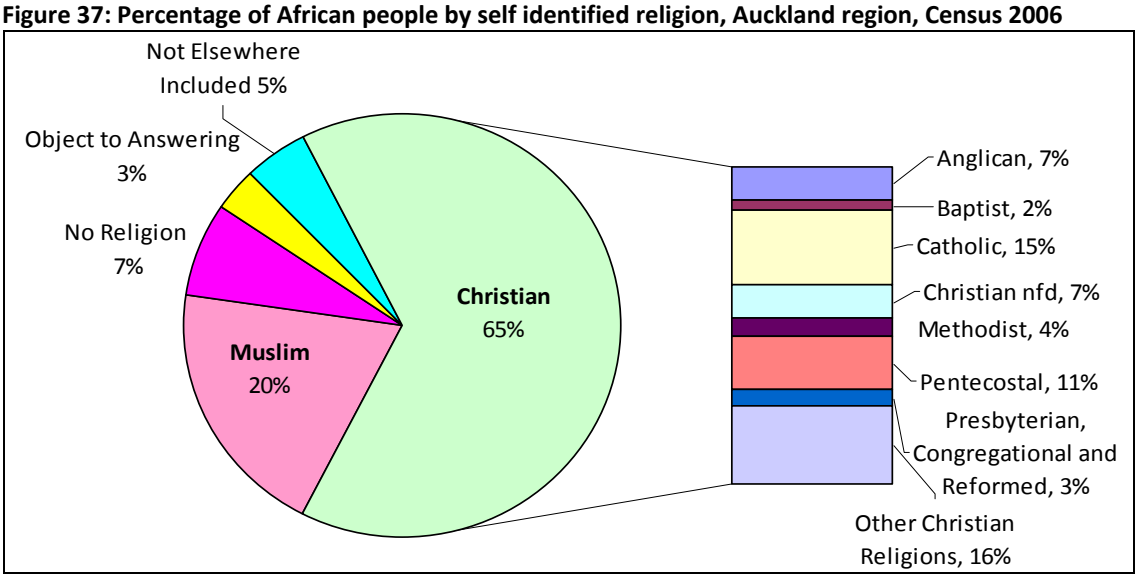



Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation, Persian language is also known as Farsi.

## *5.8 Religion*

Religion is a socioeconomic determinant of health. It strongly influences cultural practice and perceptions of health as well as lifestyle choices.

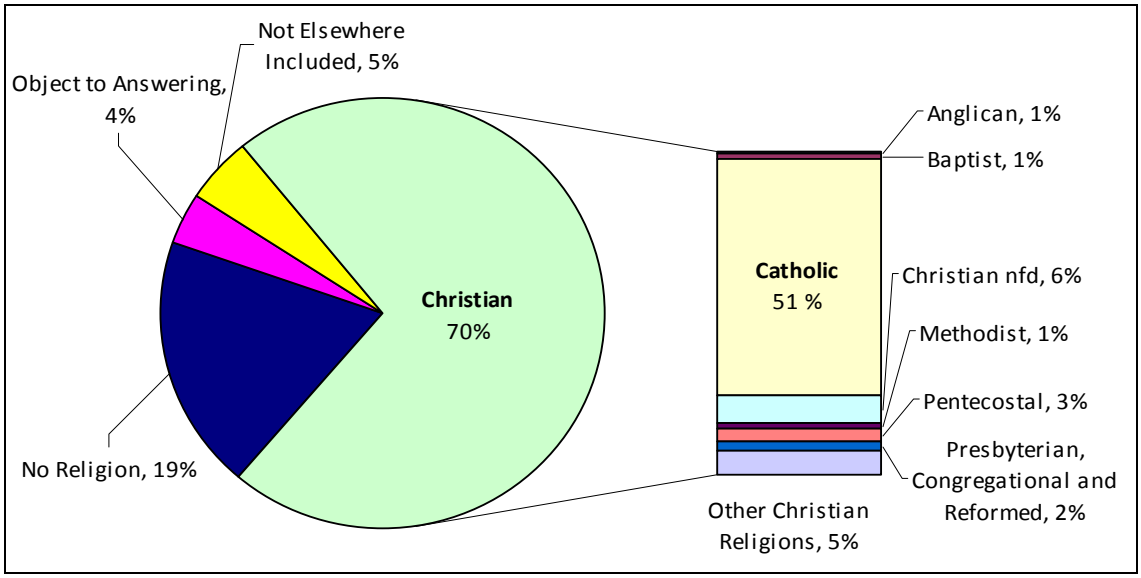
**Figure 37: Percentage of African people by self identified religion, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

In the Auckland region, the majority of African people were religious (Figure 37). Most Africans were Christian (65%) and some Muslim (20%).

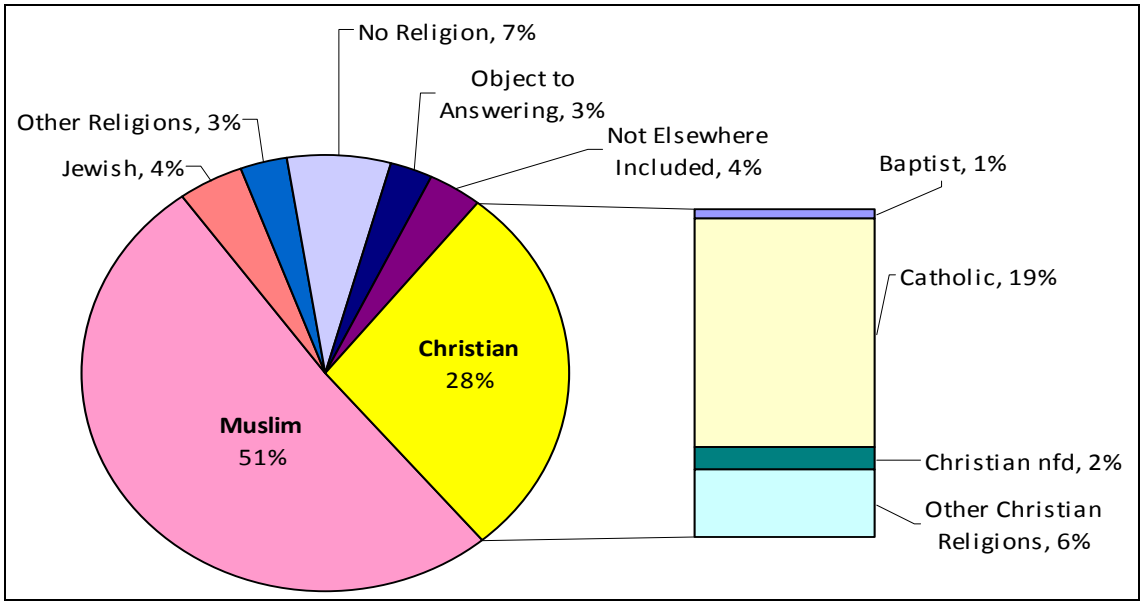
**Figure 38: Percentage of Latin American people by self identified religion, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

In the Auckland region, the majority of Latin American people were religious, with 23% identifying as having no religion or object to answering (Figure 38). Most Latin Americans were Christian (70%) and the majority were Catholics.

**Figure 39: Percentage of Middle Eastern people by self identified religion, Auckland region, Census 2006**




Source: Statistics NZ, Census 2006
Note: Usual Resident count. Customised ethnicity prioritisation

In the Auckland region, the majority of Middle Eastern people were religious, with 10% identifying as having no religion or object to answering (Figure 39). Most Middle Eastern people were Muslim (51%), followed by Christian (28%). Those who were Christian were mainly Catholics.

**"Faith and family are very important to them (referring to Muslim patients)."**

## *5.9 Discrimination*

There is no quantitative data available that can comment on the levels of discrimination Middle Eastern, Latin American and African people face in New Zealand.

Discrimination has been shown to be a determinant of health outcomes as it influences not only the self esteem and mental health of the individual but institutionalised racism also negatively affect access and engagement with health services leading to poorer outcomes for marginalised populations.(43, 44)

The thematic review (Chapter 12) has shown that migrant and refugee communities appear to face discrimination and prejudice but it is uncertain to what degree this is experienced. Racial stereotyping and consequent discrimination has also been noted on personal accounts of refugee and migrant experiences in New Zealand.(42)

## *5.10 Summary socioeconomic determinants of health*

- Deprivation measure
  - Africans had the highest percentage of people living in areas of high deprivation compared with all other ethnicities.
- Housing conditions
  - **Home ownership:** All MELAA groups had a lower percentage of home ownership than Europeans, with the greatest difference seen in Africans.
  - **Household crowding:** All MELAA ethnicities may live in more crowded circumstances than Europeans. MELAA had the lowest percentage of people living in houses with ≥4 bedrooms, but higher proportions of people having ≥6 residents per household compared with Europeans. The situation may affect African people the most as they had the largest proportion of people living in a household with ≥6 people and the lowest proportion of people living in a home with ≥ 4 bedrooms.

  - **Rental:** Most people in all four ethnicities paid a weekly rent of $300-$499. The largest proportion of people paying a weekly rent of <$100 were African, which may be a reflection of the type and location of their dwelling.
  - **Household heating:** >70 % of people in each ethnic group reported using electricity as the main mode of heating. 7% of Latin Americans and 5% of Africans reported no fuels used in heating their dwelling.
- Income and education
  - **Personal income:** Europeans had the highest mean personal income of $38,700 compared with Middle Eastern people who had the lowest mean income of $23,400. The mean income was $26,300 for both African and Latin Americans.
  - **Employment and Education:** Despite having a higher proportion of people with post school qualifications than Europeans, Latin Americans had a higher rate of unemployment. Middle Eastern people and Europeans had similar proportions of people with post school qualifications (44%), with the former having higher unemployment rates. African people had similar levels of secondary school qualifications to Europeans, but unemployment rates were similar to Middle Eastern people.
  - **Benefit receipt**: Middle Eastern people (25%) had the highest percentage of people on any benefit, followed by African people (21%). Almost 60% of Africans and 55% of Middle Eastern people on a benefit were on the unemployment benefit. 40% of Middle Eastern people on a benefit were on a sickness benefit, higher than all other ethnicities.
- Religion
  - The majority of African (65%) and Latin American (70%) people were Christian.
  - The majority of Middle Eastern people were Muslim (51%).
- Access to services
  - Car: Africans had the highest proportion of people with no vehicles and almost double that of Europeans.
  - Telephone: The percentage of people with no access to a form of telecommunication was minimal.
  - Languages: More than 80% within each MELAA group spoke English, and most were multilingual. 11% of Middle Eastern people spoke no English compared with <1% of Europeans. Being conversant in English does not imply 'health literacy' which usually needs specialised knowledge.

# 6 Risk factors

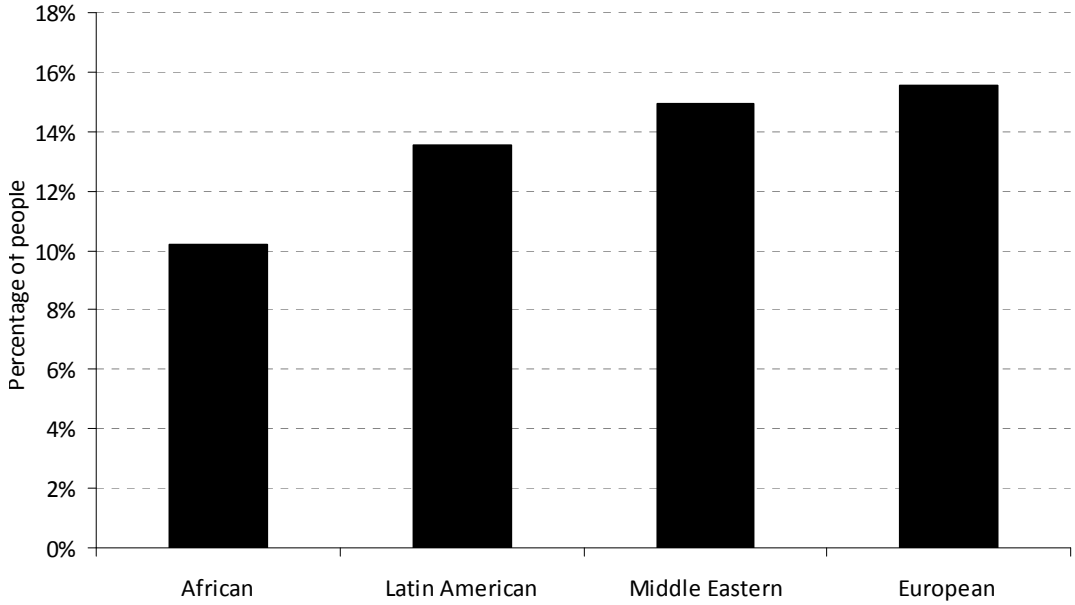
This chapter presents data on health risk factors including smoking prevalence and alcohol related hospitalisations.

Other HNAs have been able to report on protective health factors such as physical activity levels and fruit and vegetable consumption; however, this data is usually accessed from the New Zealand Health Survey and its results are presently unavailable for the MELAA group.

## *6.1 Smoking*

Census data is able to identify the prevalence of smoking in adults aged 15+ years and can categorise them as regular smokers (one or more cigarettes a day), ex-smokers (has previously smoked one or more cigarettes a day but not anymore) or never smoked regularly.

**Figure 40: Percentage of people (aged 15+ years) who identified as regular smokers, by ethnicity, Auckland region, Census 2006**




Source: Statistics New Zealand, Census 2006
Note: Ethnicity according to customised prioritisation

The proportion of adults who identified as regular smokers was low in all ethnicities (Figure 40). Middle Eastern people and Europeans had relatively similar proportions of regular smokers. African people had the lowest percentage of regular smokers compared with all other ethnicities.

## *6.2 Alcohol abuse*

Alcohol has been shown to be responsible for approximately 4% of total deaths in New Zealand in 2000, mainly due to injuries.(45) It is also known for increasing the risk for developing functional impairments and the onset of depression.(46)

Although there is currently no available data for the MELAA ethnicities to analyse alcohol consumption patterns, data on hospitalisations from alcohol related conditions is presented as a proxy for assessing the impact of alcohol consumption on these populations.

**Figure 41: Adult (15-74 years) age standardised hospitalisation rate for alcohol related conditions, by ethnicity and gender, Auckland region, 2006-2009**

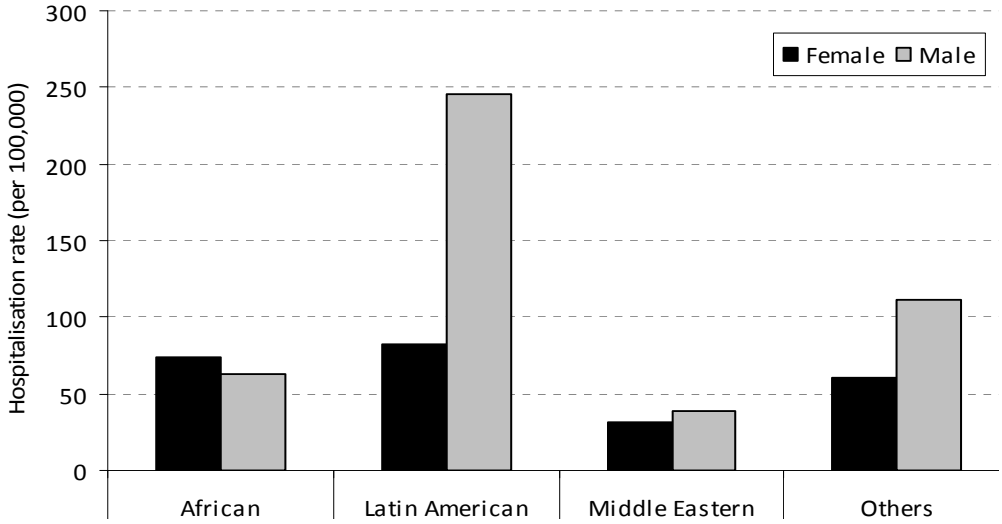



**Table 17: Age standardised rate (per 100,000) and total number of hospitalisations for alcohol related conditions by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **74** | 9 | **62** | 10 |
| Latin American | **82** | 3 | **246** | 3 |
| Middle Eastern | **31** | 5 | **39** | 9 |
| Others | **60** | 949 | **111** | 1584 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

Middle Eastern people had the lowest hospitalisation rate from alcohol related conditions compared with all other ethnicities (Figure 41, Table 17). The rate in Latin American males appears elevated but may be due to random variability as there were only three hospitalisations in four years in a small population, and there is no other data (from thematic review or health service provider interviews) to support this.

## *6.3 Summary risk factors for health*

- Smoking
  - Middle Eastern people and Europeans had the same proportion of regular smokers.
  - Africans had the lowest percentage of regular smokers compared with all other ethnicities and the highest proportion of people who have never smoked regularly.
  - All MELAA ethnicities had a lower percentage of ex smokers compared with Europeans.
- Alcohol abuse
  - Middle Eastern people had the lowest hospitalisation rate from alcohol related conditions compared with all other ethnicities.

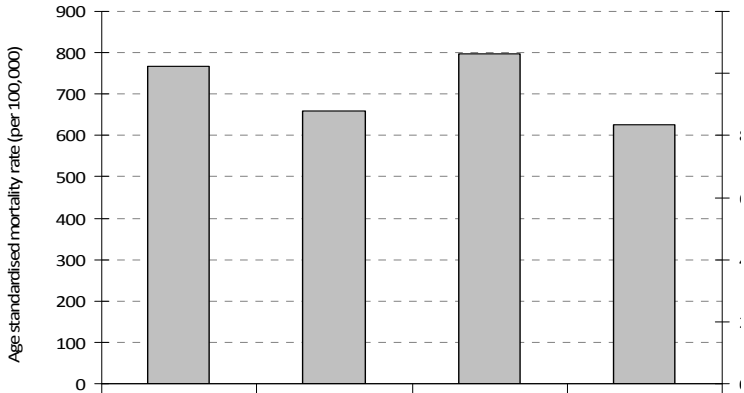
# 7 Health outcomes

Population health outcomes are usually described in terms of life expectancy and mortality rates. Life expectancy for the MELAA group is unable to be calculated due to the small number of deaths that have occurred in this population (at the national level, there were less than 100 deaths in the MELAA ethnic group registered in each year 2006-2009) and is not recommended to be calculated for this population by Statistics New Zealand. A reliable life table, from which life expectancy at birth could be derived, is not able to be constructed. Instead only data on mortality is presented below.

## *7.1 All cause mortality*

Mortality data is collected by the Information Directorate in the Ministry of Health and is known as the Mortality Collection (which classifies the underlying cause of death for all deaths registered in New Zealand using the ICD-10-AM 2nd edition, after 2000).(47) Regional data was not analysed as the number of events was too small to be presented by Level 2 classified ethnicity.

**Figure 42: Age standardised mortality rate (SMR) per 100,000, combined male and female, all ages, for all causes, New Zealand, 2004-2007**

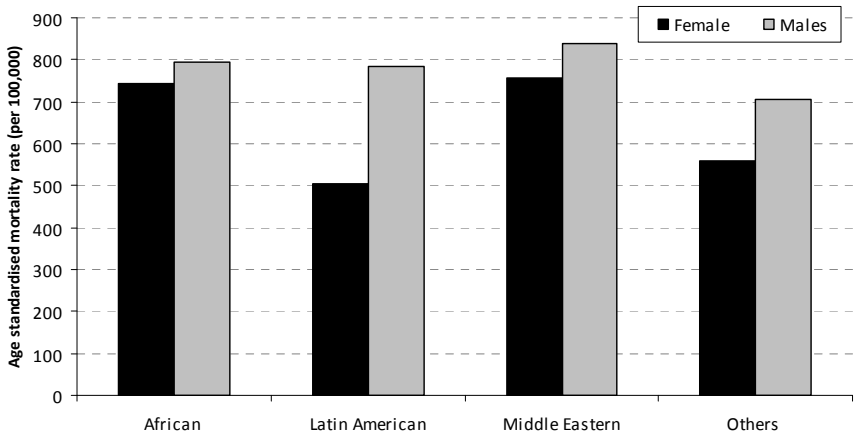



| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| SMR | 766 | 659 | 798 | 626 |
| Total number of events | 64 | 32 | 202 | 96824 |

Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised Census 2006 population.

Figure 42 shows that the age standardised mortality rate in New Zealand for each MELAA ethnicity was higher than the rate for Others, with Middle Eastern people having the highest rate.

**Figure 43: Age standardised mortality rate (SMR) per 100,000, from all causes, all ages, by gender and ethnicity, in New Zealand, 2004-2007**




Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised Census 2006 population.

**Table 18: Age standardised mortality rates (SMR) per 100,000 and total deaths for 4 years combined from all causes by gender and ethnicity, for all ages, in New Zealand, 2004-2007**

| Ethnicity | Female | | Males | |
|---|---|---|---|---|
| | SMR per 100,000 per year | Total deaths in 4 years | SMR per 100,000 per year | Total deaths in 4 years |
| African | **742** | 28 | **792** | 36 |
| Latin American | **506** | 13 | **784** | 19 |
| Middle Eastern | **757** | 90 | **840** | 112 |
| Others | **558** | 49578 | **704** | 47246 |

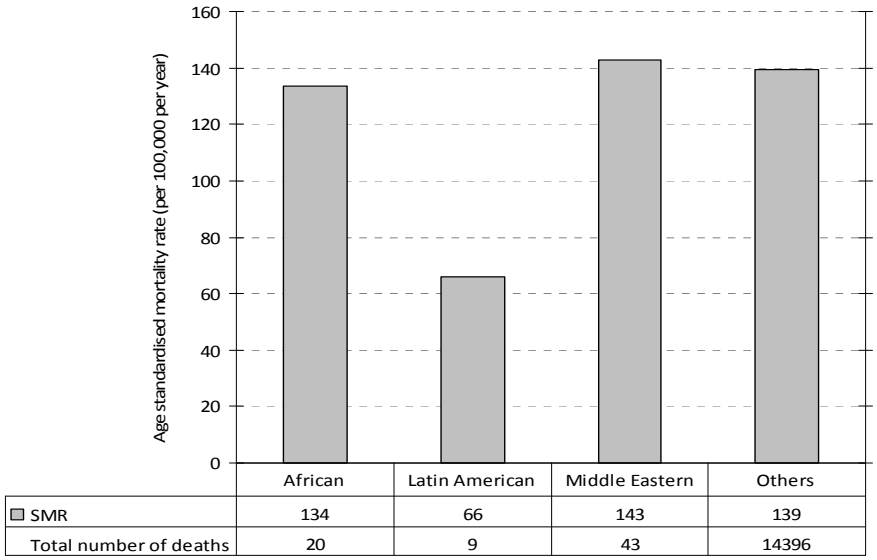
Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised Census 2006 population.

Figure 43 and Table 18 show the age standardised mortality rate from all causes by gender and ethnicity in New Zealand. In all ethnicities, males had higher mortality rates than females. The gap is most pronounced in Latin Americans but should be interpreted with caution due to the small number of events. The males and females in the MELAA ethnicities had higher mortality rates than their counterparts in Others, except in Latin American females.

## *7.2 Adult potentially avoidable mortality (PAM)*

Avoidable mortality is an indicator that portrays the risks of dying from conditions that are seen as either treatable or preventable (given current knowledge of social and economic policy impacts, health behaviours, and health care) and provides an overall indicator of health service performance.(48) It includes all potentially avoidable deaths from 0 to 74 years and excludes deaths in people aged 75 years and over as there is a high prevalence of multiple co-morbidities in this age group. Here, adult PAM rates and causes were analysed at a national level as the regional number of events were too small. Appendix 4 lists the conditions recognised as PAM indicators.

**Figure 44: Adult potentially avoidable age standardised mortality rates per 100,000, in people age 15-74 years, all causes, combined male and female, by ethnicity, New Zealand, 2004-2007**




Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised Census 2006 population.

In New Zealand, Latin Americans appeared to have the lowest rate of PAM from all causes (66 per 100,000), compared with all other ethnicities (Figure 44), but as there were few deaths, the rate has to be interpreted with caution. The mortality rate for all PAM conditions in Africans and Middle Eastern people appeared similar to Others.

### 7.2.1 Adult potentially avoidable mortality (PAM) – leading causes

Table 19 shows the rate and total number of events for all five super-categories for PAM in adults. In New Zealand, chronic disorders are the leading cause of PAM in all ethnicities. African and Middle Eastern people had similar rates to Others, but Latin Americans had half the rate of Others. Middle Eastern people appeared to have a higher SMR from cancer deaths (44 per 100,000) than Others (39 per 100,000). It is uncertain why this might be so.

**Table 19: Age standardised mortality rates (SMR) per 100,000 within the five PAM super categories and total number of deaths, by ethnicity, in adults aged 15-74 years, combined male and females, by ethnicity, New Zealand, 2004-2007**

| PAM Indicator | African | | Latin American | | Middle Eastern | | Other | |
|---|---|---|---|---|---|---|---|---|
| | SMR | Total deaths | SMR | Total deaths | SMR | Total deaths | SMR | Total deaths |
| Chronic disorders | **75** | 8 | **35** | 2 | **78** | 22 | **73** | 7659 |
| Cancers | **28** | 2 | **13** | 2 | **44** | 11 | **39** | 4109 |
| Infections | **23** | 7 | **4** | 1 | **0** | 0 | **2** | 177 |
| Injuries | **5** | 2 | **14** | 4 | **21** | 10 | **25** | 2412 |
| Maternal & newborn | **3** | 1 | **0** | 0 | **0** | 0 | **0** | 39 |

Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised Census 2006 population

Table 20 summarises the leading cause of PAM in adults for each ethnic group. Coronary disease was the leading cause of PAM in all ethnicities, with Others having the highest rate followed by Middle Eastern people. The total number of deaths was small in the MELAA ethnicities for each condition; hence the rates should be interpreted with caution.

**Table 20: Leading causes of avoidable mortality in adults (15-74 years), males and females combined, with age standardised mortality rates (SMR) per 100,000, and total number of deaths, by ethnicity, New Zealand, 2004-2007.**

| Rank | African | | | Latin American | | | Middle Eastern | | | Others | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PAM cause | SMR | Total deaths | PAM cause | SMR | Total deaths | PAM cause | SMR | Total deaths | PAM cause | SMR | Total deaths |
| **1** | Coronary disease | **28** | 4 | Coronary disease | **35** | 2 | Coronary disease | **36** | 11 | Coronary disease | **45** | 4752 |
| **2** | Cerebro-vascular diseases | **26** | 1 | Suicide | **11** | 3 | Cerebro-vascular diseases | **22** | 6 | Suicide | **15** | 1387 |
| **3** | Cancer-Stomach | **26** | 1 | Cancer-Female breast | **10** | 1 | Cancer-Female breast | **22** | 5 | Cerebro-vascular diseases | **14** | 1516 |
| **4** | HIV/AIDS | **23** | 7 | Road traffic accidents | **4** | 1 | Diabetes | **15** | 4 | Cancer-Female breast | **14** | 1409 |
| **5** | Valvular heart disease | **7** | 1 | HIV/AIDS | **4** | 1 | Cancer-Prostate | **12** | 3 | Road traffic accidents | **10** | 932 |

Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised Census 2006 population.

## *7.3 Summary-health outcomes*

- Mortality rate
  - The age standardised mortality rate in New Zealand for all MELAA groups appeared higher than the rate for Others, with Middle Eastern people having the highest rate.
- Potentially avoidable mortality
  - In New Zealand, Latin Americans had the lowest rate of PAM from all causes. The rate for all PAM conditions in African and Middle Eastern people was similar to Others.
  - Coronary disease was the leading cause of PAM in all ethnicities, with Others having the highest rate followed by Middle Eastern people.

# 8

# 9 Health Service Utilisation

Knowledge on how different communities access and use health services are important to know in order to effectively implement change where needed and to effectively target unmet needs or inadequate resources. Data is presented in this chapter in order to capture this information on health service utilisation:

- Primary health use: Primary health organisation enrolment, Community Services Card, Care Plus enrolment
- Oral Health
- Clinical preventive services use: Cervical and breast screening data
- Emergency Department utilisation
- Outpatient specialist clinic 'Did Not Attend' percentages
- Pharmaceutical and laboratory utilisation
- Hospitalisation rates: Potentially avoidable hospitalisation and ambulatory sensitive hospitalisation causes
- Adult access to surgical procedures in hospital

## *9.1 Primary Care*

### 9.1.1 PHO enrolment and utilisation

Table 21 shows the percentage of the Auckland population enrolled with a Primary Health Organisation (PHO) by ethnicity.

For 2006, in the Auckland region, the percentage enrolled with a PHO for the overall MELAA group was higher than Others (104% compared with 85%). The African population had the highest enrolled population (152%). The percentage enrolled for the African population is >100%. It may be that the Census 2006 population number for Africans was an undercount for the actual population, or it may be a misclassification of European migrants from South Africa and Zimbabwe in the PHO registers. The Latin American population in 2006 only had 51% enrolled with a PHO. The Latin American population was mainly made up of a young population who may be highly mobile (many of the young people may be in New Zealand for studies or working holidays and then return back to Latin America). For this population, it may be likely that they see a GP as an un-enrolled patient.

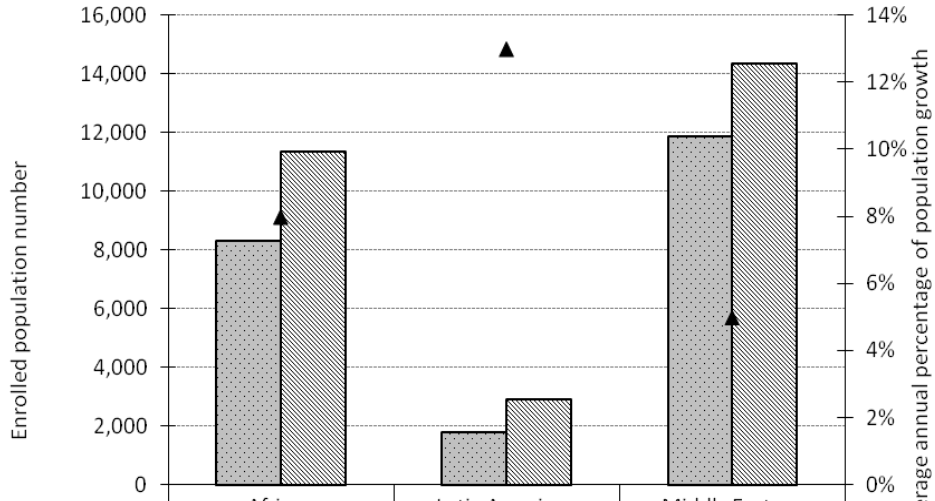
**Table 21: The percentage of population enrolled with a PHO in 2006 based on Census 2006 usually resident population numbers, Auckland region**

| Ethnicity | Census 2006 ER population* | PHO enrolled 2006 population* | % of population enrolled in 2006 |
|---|---|---|---|
| MELAA group | 21,101 | 21,860 | 104% |
| Middle Eastern | 12,140 | 11,869 | 98% |
| Latin American | 3,508 | 1,802 | 51% |
| African | 5,453 | 8,302 | 152% |
| Others | 1,138,253 | 969,861 | 85% |

Source: PHO data mart (Quarter 2 data), Census 2006, *custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. ER= Estimated resident

Figure 45 shows the total enrolled population numbers by ethnicity for the MELAA group and the percentage of average annual increase in population enrolment from 2006 to 2010. Latin American people had the greatest average annual increase, followed by Africans then Middle Eastern people.

**Figure 45: PHO enrolled population numbers for 2006 and 2010 and the average annual increase in growth for African, Latin Americans and Middle Eastern populations in the Auckland region**




| | African | Latin American | Middle Eastern |
|---|---|---|---|
| 2006 Q2 population | 8,302 | 1,802 | 11,869 |
| 2010 Q1 population | 11,374 | 2,915 | 14,348 |
| ▲ Average annual increase | 8% | 13% | 5% |

Source: PHO data mart, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Q=Quarter

Table 22 shows the percentage of enrolled population within the different age groups by ethnicity. Compared with Others, there was a higher percentage of people aged 5 to 44 years in the African group (72% compared with 54%). This trend was similar for Middle Eastern people. In the 25-44 year age band, Latin Americans had the highest percentage compared with all other ethnicities (49%). All three MELAA ethnicities had much lower proportions of people from age 65+ years enrolled with a PHO compared with Others.

**Table 22: PHO enrolment age profile by ethnicity, Auckland region, 2010**

| Health care user age in years | Percentage of people enrolled in each age band | | | |
|---|---|---|---|---|
| | African | Latin American | Middle Eastern | Others |
| 0-4 | 8% | 8% | 8% | 6% |
| 5-14 | 18% | 13% | 14% | 12% |
| 15-24 | 18% | 12% | 20% | 13% |
| 25-44 | 36% | 49% | 34% | 29% |
| 45-64 | 17% | 16% | 20% | 27% |
| 65+ | 3% | 3% | 5% | 13% |

Source: PHO data mart, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Quarter 2 enrolment details.

## *9.2 Community Services card*

Community services cards (CSC) are issued by Work and Income New Zealand. Having a CSC provides cheaper access to primary care services and treatments by reducing the cost of(49):

- prescriptions
- after hours doctor visits
- casual doctors visits( to an un-enrolled practice)
- glasses for children under 16 years
- emergency dental care

To qualify for a CSC, a person must usually be 18 years+ years, and on a low-to-middle income or be receiving a main type of income support and a permanent resident and normally live in New Zealand (or

have refugee status or have applied for refugee status). By looking at the number of people who possess a CSC, comments could be made about ease of access to primary care services and treatment.

Table 23 shows the number and percentage of people enrolled with a PHO with a CSC in 2010.

**Table 23: Number and percentage of people enrolled with a PHO with a community services card (CSC) in 2010, by ethnicity, Auckland region.**

| Ethnicity | CSC ownership | |
|---|---|---|
| | n | % |
| African | 2608 | 23% |
| Latin American | 379 | 13% |
| Middle Eastern | 5959 | 42% |
| Others | 182378 | 18% |

Source: PHO data mart, Quarter 1 (Jan-March) of 2010, custom prioritised ethnicity.
Note: Others= all non-MELAA, non-Maori and non-Pacific.

Latin American people had the lowest percentage of CSC ownership (13%) compared with all other ethnicities. This may be because they had the lowest proportion of people on any type of benefit (see Figure 28) and they had a lower proportion of people on low income (see Figure 27) compared with the other MELAA groups.

Middle Eastern people had the highest proportion of people with a CSC (42%). This is in keeping with the population Census profile that indicates that almost 25% of the adult population were on a benefit (see Figure 28) and almost 50% had an annual income ranging from loss to <$20,000 (see Figure 27).

Only 23% of African people enrolled with a PHO in the Auckland region had a CSC. This is lower than what is expected considering they were the ethnicity (of the 3 MELAA groups) with the highest deprivation levels (see Figure 20), almost 40% had an annual income ranging from loss to <$20,000 (see Figure 27) and 20% were on a type of benefit (see Figure 28).

## *9.3 Care Plus enrolment*

Care Plus is a primary health care initiative rolled out in 2004 to target people with high health needs from chronic conditions, acute medical or mental health conditions or terminal illness. It aims to improve chronic care management, reduce health inequalities and reduce the cost of services for high need primary health users.(50) Data is presented on Care Plus enrolments for 2010 by ethnicity (Table 24).

Table 24 shows that the African population has higher proportions of people enrolled in Care Plus than Others in the 45 + years age groups. Similarly, Middle Eastern people have higher proportions than Others in the same age groups. This would be in keeping with the data that will be shown in Chapter 9 where Middle Eastern and African people are found to have a higher prevalence of chronic conditions (e.g. diabetes and CVD) than Others. Latin Americans had lower proportions of people enrolled in Care Plus across all age groups compared with Others.

**Table 24: Number and percentage of people enrolled in the Care Plus primary health initiative in 2010, by ethnicity and age groups, Auckland region.**

| Ethnicity | Age (years) | Enrolled in CarePlus | | % enrolled |
|---|---|---|---|---|
| | | Yes | No | |
| African | 0 to 24 | 14 | 4,999 | 0.3% |
| | 25 to 44 | 91 | 4,041 | 2.2% |
| | 45 to 65 | 134 | 1,787 | 7.0% |
| | 65+ | 51 | 257 | 16.6% |
| **African Total** | | **290** | **11,084** | **2.5%** |
| Latin American | 0 to 24 | 1 | 952 | 0.1% |
| | 25 to 44 | 8 | 1,413 | 0.6% |
| | 45 to 65 | 22 | 442 | 4.7% |
| | 65+ | 9 | 68 | 11.7% |
| **Latin American Total** | | **40** | **2,875** | **1.37%** |
| Middle Eastern | 0 to 24 | 16 | 6,001 | 0.3% |
| | 25 to 44 | 106 | 4,738 | 2.2% |
| | 45 to 65 | 258 | 2,543 | 9.2% |
| | 65+ | 115 | 571 | 16.8% |
| **Middle Eastern Total** | | **495** | **13,853** | **3.4%** |
| Other | 0 to 24 | 918 | 318,764 | 0.3% |
| | 25 to 44 | 3,528 | 297,265 | 1.2% |
| | 45 to 65 | 14,707 | 257,544 | 5.4% |
| | 65+ | 20,908 | 111,686 | 15.8% |
| **Other Total** | | **40,061** | **985,259** | **3.9%** |

Source: PHO data mart, Quarter 1 (Jan-March) of 2010, custom prioritised ethnicity.
Note: Others= all non-MELAA, non-Maori and non-Pacific.

### 9.3.1 Oral health services

Hospitalisation rates from dental conditions was analysed as a proxy indicator to assess unmet community oral health services need. Figure 46 shows that adult Middle Eastern people had the highest rate of hospitalisations from dental conditions compared with all other ethnicities. The rate for African people is similar to Others. Middle Eastern people may have a higher unmet need for outpatient/community oral health services as they are also shown (in Chapter 10) to have a much higher proportion of children with caries and poor dentition compared with other ethnicities.

**Figure 46: Adult (15-74 years) rate of hospitalisations for dental conditions, by ethnicity, Auckland region, 2006-2009**

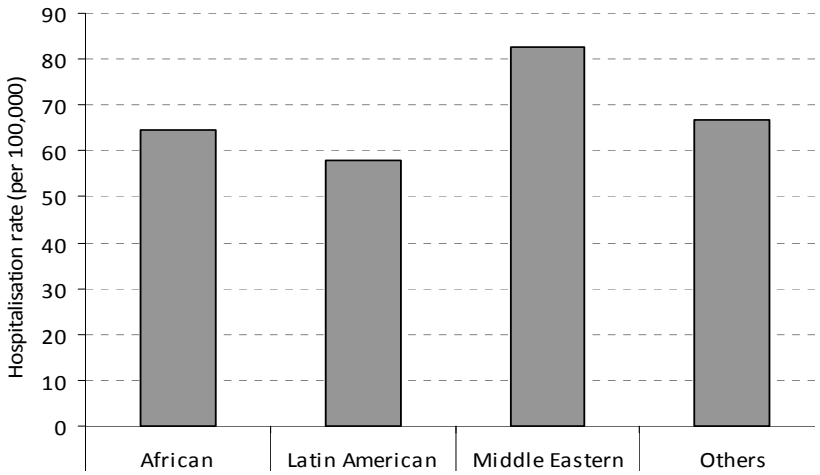


**Table 25: Adult (15-74 years) rate and total number of hospitalisations for dental conditions, by ethnicity, Auckland region, 2006-2009**

| Ethnicity | Adult | |
|---|---|---|
| | Rate | Events |
| African | **65** | 14 |
| Latin American | **58** | 5 |
| Middle Eastern | **83** | 34 |
| Others | **67** | 1945 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

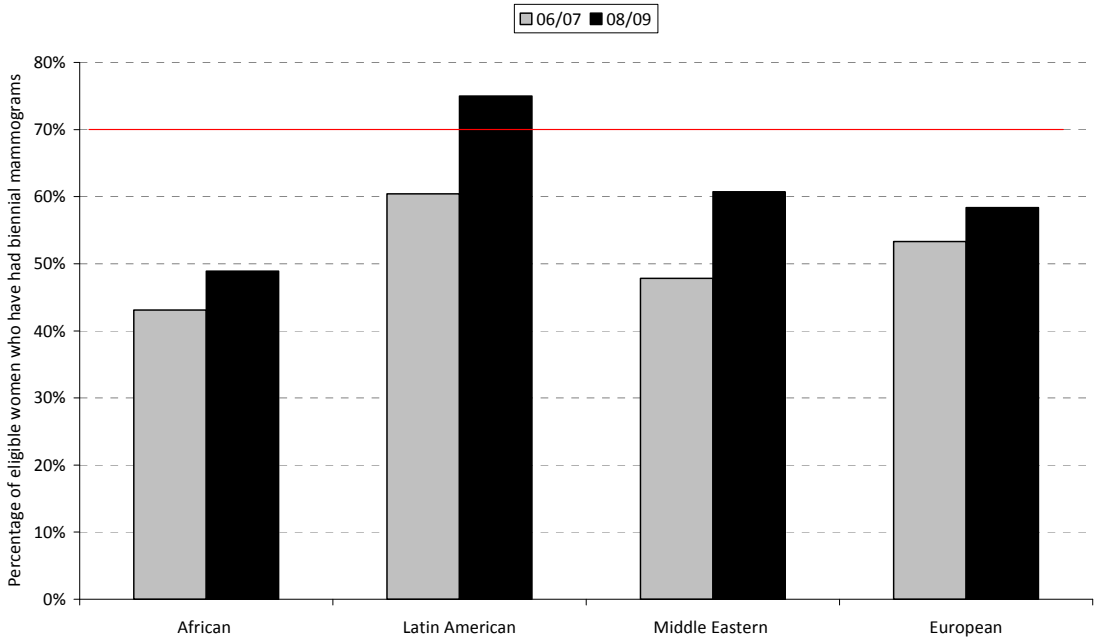
## *9.4 Clinical preventive services use*

### 9.4.1 Breast cancer screening

Breast cancer screening is an effective way of detecting breast cancer early and is effective in reducing the mortality in women from breast cancer. Breast Screen Aotearoa (BSA) is a free national breast screening programme.(51) It uses mammograms to check for early signs of breast cancer. Free screening mammogram are offered every two years to eligible women who are aged 45 to 69 years, have no symptoms of breast cancer, have not had a mammogram in the last 12 months, are not pregnant and eligible for public health services in New Zealand. The recommended target by the BSA advisory group is ≥ 70% of eligible women receive a screen within the programme in the most recent 24 months.(52)

Figure 47 shows the biennial overall uptake of breast screening (mammograms) in women aged 45-69 years in the Auckland region by ethnicity for the periods 2006/07 and 2008/09. Latin American women had the highest uptake of mammograms for both time periods, and achieved the target in 2008/09. In 2008/09, Middle Eastern women were below the target but had a slightly higher percentage of coverage than European women. African women in 2008/09 had a lower coverage than the recommended target, the lowest coverage within the MELAA group and had a lower coverage than European women. Importantly, the biennial coverage of eligible women by BSA has improved for all three MELAA ethnicities from 2006/07 to 2008/09.

**Figure 47: Percentage of women age 45-69 years who received a mammogram in the most recent 24 month period, Auckland region, by ethnicity, 2006/07 and 2008/09**



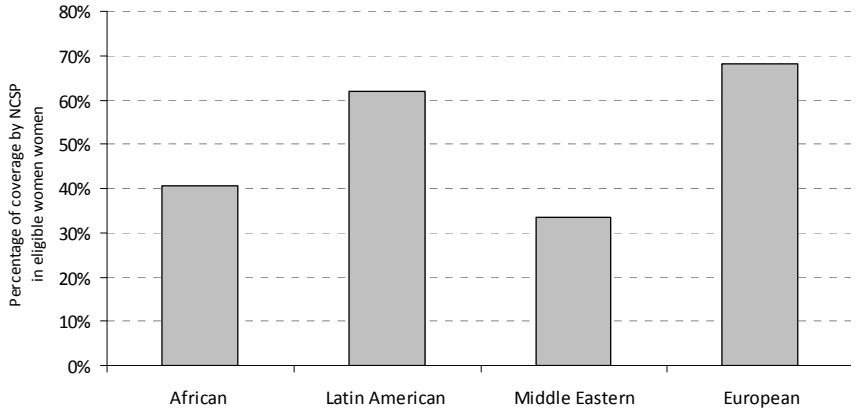

Source: National Screening Unit data. 2006-2009. Standard prioritised ethnicity.

### 9.4.2 Cervical cancer screening

The National Cervical Screening Programme (NCSP) aims to decrease the number of women who develop cervical cancer and the number who die from it, in New Zealand. It is recommended that all women who are sexually active from age 20 to 70 years should have regular cervical smear tests.(53)

Unadjusted coverage rates for cervical screening look at the number of women who have had a smear, HPV or histology result recorded on the NCSP Register in the three years prior to the end of the reporting period, as a proportion of all women aged 20- 69 years. This does not exclude the women who have had a hysterectomy and do not need cervical smears.(54) There is no target for unadjusted coverage and it is not routinely reported. The data is shown here to allow for comparison between the MELAA groups and Others. It should be noted that the adjusted coverage percentage is usually higher than the unadjusted coverage i.e. in January 2010, the national adjusted 3 year adjusted coverage for 'Other' was 86% (here 'Other' referred to non-Maori, non-Pacific and non-Asian and includes European and MELAA).

**Figure 48: Unadjusted NCSP coverage percentages for women aged 20-69 years, by ethnicity, Auckland region, 2009**




Source: National Screening Unit data. 2006-2009. Standard prioritised ethnicity

Figure 48 shows that all three MELAA groups had lower NCSP unadjusted coverage then Europeans. Middle Eastern women had the lowest unadjusted coverage, approximately half the coverage rate of European women. African women also had very low coverage compared with Europeans.

## *9.5 Secondary and Tertiary Care*

### 9.5.1 Emergency Department utilisation

Table 26 shows the ethnicity breakdown for the total number of ED attendances in all three Auckland DHBs over 3 years. The MELAA group contributed approximately 2% to the total attendances seen in the three Auckland DHB Emergency Departments.

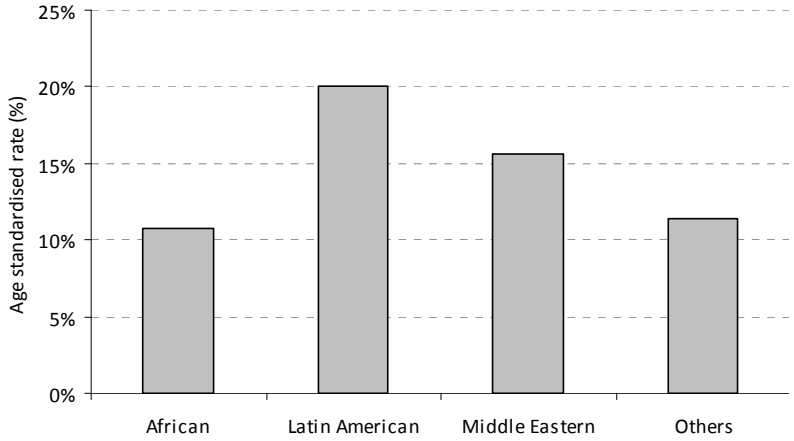
**Table 26: Percentage of all ED events for the three Auckland DHBs by ethnicity, 2005/06-2007/08**

| Ethnicity | 2005/06 | 2006/07 | 2007/08 |
|---|---|---|---|
| African | 0.5% | 0.6% | 0.6% |
| Latin American | 0.2% | 0.2% | 0.2% |
| Middle Eastern | 1.1% | 1.1% | 1.2% |
| Others | 66.8% | 66.2% | 65.1% |

Source: NDSA, DHB PiMS (01-Jul-05 to 30-Jun-08), standard prioritised ethnicity
Note: Others=non-MELAA, non-Maori and non Pacific

Figure 49 shows that the age standardised rate of ED attendance in the Auckland region was lowest in African people and highest in Latin American people. The Middle Eastern rate was higher than Others.

**Figure 49: Age standardised rate (%) of Emergency Department attendance in public hospitals in the Auckland region, 2005/06-2007/08**




Source: NDSA, DHB PiMS (01-Jul-05 to 30-Jun-08), standard prioritised ethnicity
Note: Others=non-MELAA, non-Maori and non Pacific

Table 27 shows the average number of events per person per annum for ED events for the Auckland region. Overall there was little difference between the ethnicities.

**Table 27: Number of events/visits per each unique NHI per annum for Emergency Department attendances for the Auckland region (public hospitals), 2005/06-2007/08**

| Ethnicity | Number of events per count of unique NHI per annum |
|---|---|
| African | 1.4 |
| Latin American | 1.3 |
| Middle Eastern | 1.4 |
| Others | 1.4 |

Source: NDSA, DHB PiMS (01-Jul-05 to 30-Jun-08), standard prioritised ethnicity
Note: Others=non-MELAA, non-Maori and non Pacific

### 9.5.2 Access to secondary mental health and addiction services

Access to secondary mental health and addiction services was determined by analysing data extracts from the Mental Health Information National Collection (MHINC) and the Programme for the Integration of Mental Health Data (PRIMHD), which replaced MHINC from July 2008.

Figure 50 shows that from 2006 to 2009, African and Middle Eastern people had lower rates of use of secondary mental health and addiction services compared with Others. Latin American people however had a higher rate of use than Others.

**Figure 50: Age standardised rate (ASR) of use of secondary mental health and addiction services, for people aged 0-64 years, by ethnicity, Auckland region, 2006-2009**

| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| ASR | 1944 | 3368 | 2161 | 2426 |
| Number of people seen | 804 | 229 | 1143 | 96594 |

Source: PRIMHD - Programme for the Integration of Mental Health Data, MOH. Custom prioritised ethnicity
Note: Others= non MELAA, non Maori and non Pacific.

Table 28 and Figure 51 show the percentage of clients who were admitted acutely as inpatients to mental health services, who had no previous contact with mental health services for the preceding 12 months, by ethnicity.

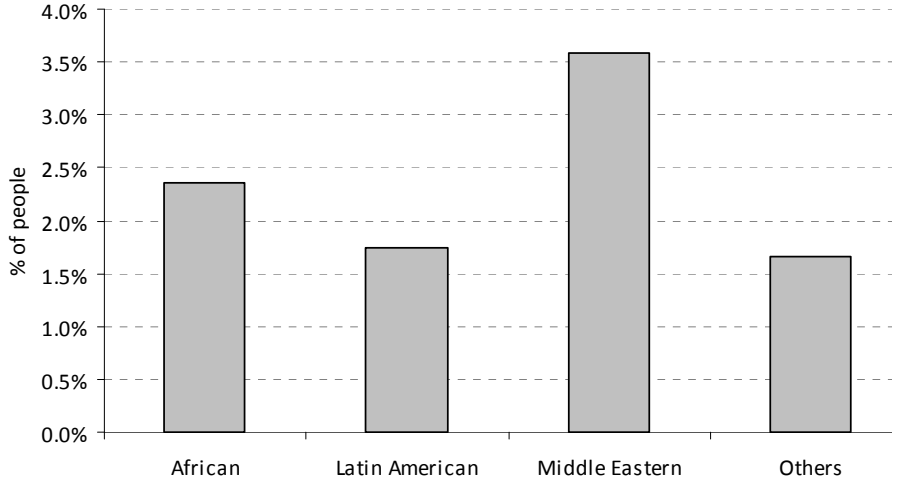
Middle Eastern people had the highest percentage of acute admissions (3.6%) followed by African people (2.4%), and they both had higher percentages than Others (1.7%). Latin American people had the same percentage as Others.

**Table 28: Number and percentage of clients with an acute inpatient (IP) admission and no previous contact with mental health services for the preceding 12 months, by ethnicity, Auckland region, 2006-2009**

| Data | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| Total number of unique clients seen | 804 | 229 | 1143 | 94171 |
| Number of people needing an acute IP admission | 19 | 4 | 41 | 1567 |
| % of people seen needing acute IP admission | 2.4% | 1.7% | 3.6% | 1.7% |

Source: PRIMHD - Programme for the Integration of Mental Health Data, MOH. Custom prioritised ethnicity
Note: Others= non MELAA, non Maori and non Pacific.

**Figure 51: Percentage of clients with an acute inpatient admission and no previous contact with mental health services for the proceeding 12 months, by ethnicity, Auckland region, 2006-2009**




Source: PRIMHD (Programme for the Integration of Mental Health Data), MOH. Custom prioritised ethnicity
Note: Others= non MELAA, non Maori and non Pacific.

The mental health and addiction services data shows that while Middle Eastern and African people had lower rates of use of these services, they also had higher percentages of people needing acute inpatient admissions at first contact (in 12 months) compared with Others. There may be more issues regarding access or engagement (e.g. delaying seeking medical attention) with these services for Middle Eastern and African people compared with Others.

Most patients had a recorded primary mental health diagnoses in PRIMHD as 'no diagnosis or condition' or 'diagnosis deferred' (50-60% in each ethnicity). For patients who had a primary diagnoses, common mental conditions seen within each ethnicity for patients seen by secondary mental health and addiction services were (in no particular order):

- **African people**: Parent-child relational problem, major depressive disorder, psychotic disorder (not otherwise specified), post traumatic stress disorder, schizophrenia (undifferentiated and paranoid type), depressive disorder and schizoaffective disorder.
- **Middle Eastern people**: Major depressive disorder, psychotic disorder (not otherwise specified), post traumatic stress disorder, schizophrenia (paranoid type), depressive disorder (not otherwise specified) and adjustment disorder.
- **Latin American people**: The numbers were too small to comment on.

### 9.5.3 DNA rates for outpatient clinic appointments

Table 29 shows the percentage of people who did not attend (DNA) outpatient appointments for each DHB by ethnicity.

The African population in WDHB had the highest DNA percentage in 2009 compared with all other ethnicities (13% compared to 8% in Europeans). In CMDHB, all three MELAA groups had higher DNA percentages than Europeans. In ADHB, African people had twice the DNA percentage of Europeans.

**Table 29: Percentage of people who did not attend outpatient clinics for each DHB by ethnicity, Auckland region, 2009**

| Ethnicity | WDHB | CMDHB | ADHB |
|---|---|---|---|
| African | 13% | 8% | 8% |
| Latin American | 9% | 9% | 6% |
| Middle Eastern | 9% | 6% | 5% |
| European | 8% | 5% | 4% |

Source: Data analysts from each DHB, 2009 data

### 9.5.4 Pharmaceutical usage

Medication reimbursement costs claimed by pharmacists was analysed as a measure to determine access to medications for the different MELAA ethnicities compared with Others.

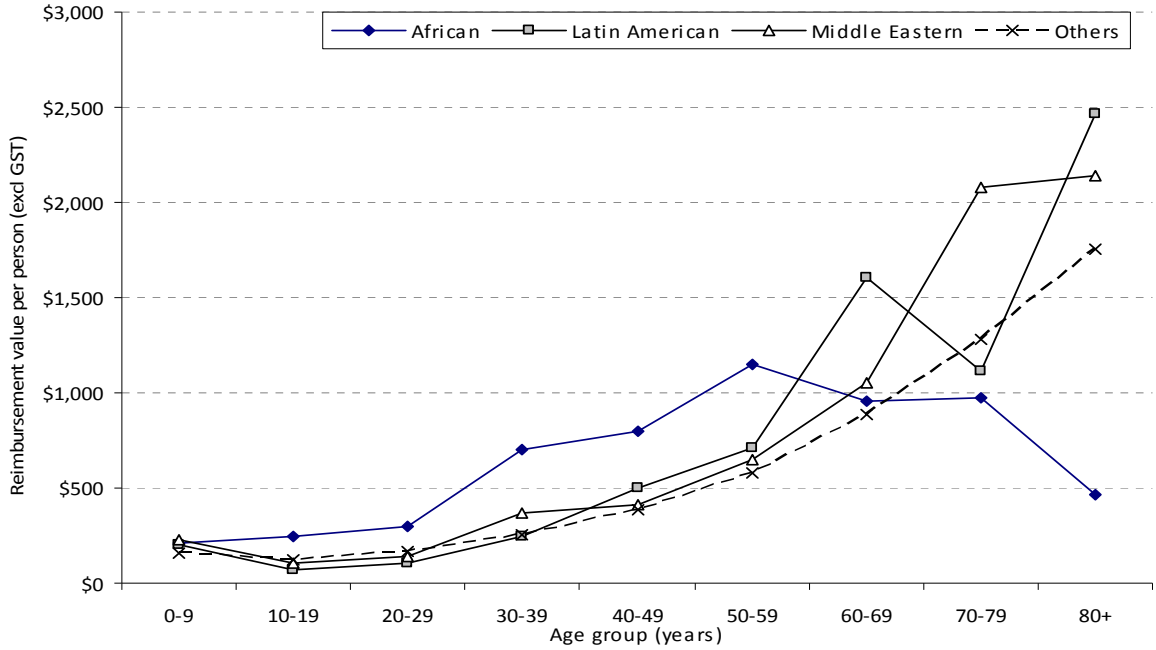
**Pharmaceutical reimbursements costs claimed per person**

Figure 52 shows the reimbursement value per person by ethnicity and age groups. This value was obtained by dividing the total reimbursement cost in each age group by the total population count in 2009 in each age group.

African people from age 10 up to 59 years had the highest cost of dispensed pharmaceuticals compared with all other ethnicities. At age 60 years, this pattern tapered off and they had reimbursement levels below Others from age 70+ years. The high reimbursement costs seen in the younger African age groups are likely explained by the dispensing costs associated with HIV retroviral therapy, as the analysis excluding HIV medications showed that the African population had similar reimbursements costs per person as Others up to age 69 years (see Figure 53).

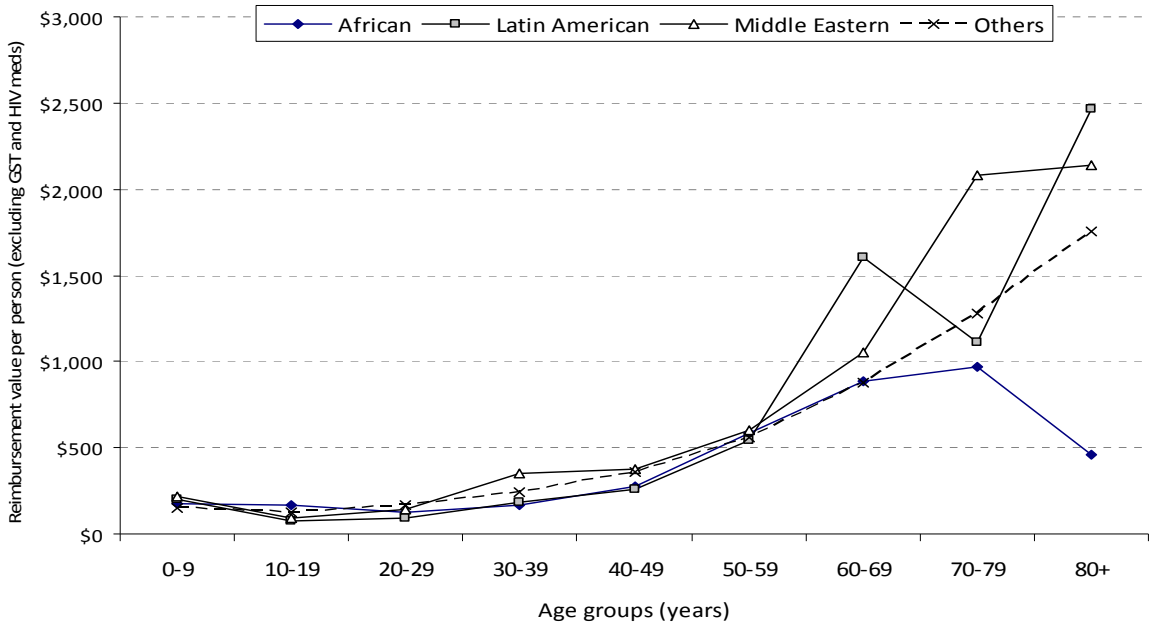
Middle Eastern people generally had similar costs per person for reimbursed pharmaceuticals as Others until age 59 years and became higher than Others thereafter. Latin American people had lower reimbursement cost per person than Others in the younger age groups but became higher than Others from age 40+ years. In all ethnicities except in African people, reimbursement costs per person increased with age.

**Figure 52: Reimbursement value per person (excluding GST) for pharmaceuticals by age group and ethnicity, Auckland region, 2009**




Source: NDSA Pharmaceutical NHI Extracts dispensed 2009, custom prioritised ethnicity

**Figure 53: Reimbursement value per person (excluding GST) for pharmaceuticals (excluding HIV medications) by age group and ethnicity, Auckland region, 2009**

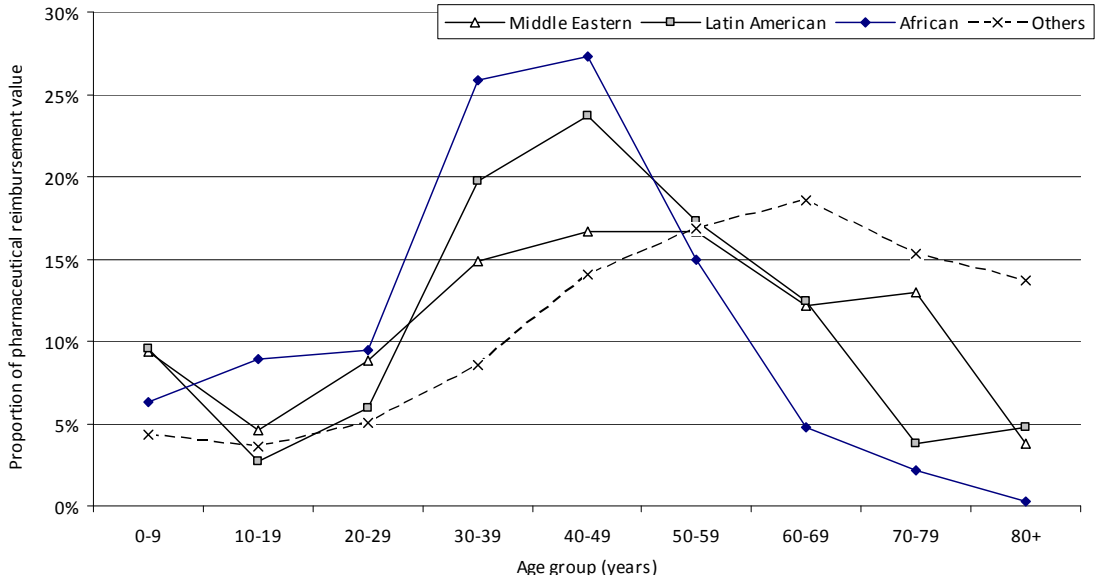



Source: NDSA Pharmaceutical NHI Extracts dispensed 2009, custom prioritised ethnicity

**Proportion of costs claimed by age groups**

Figure 54 shows the proportion of the reimbursement value for dispensed pharmaceuticals in 2009 within each ethnicity broken down by age groups. All MELAA ethnicities had the greatest proportion of pharmaceutical spend occur in the 30 to 49 years age bands (highest for African people). In contrast, Others had the highest proportion of pharmaceutical spend in the 50 to 69 years age bands. This would be consistent with the earlier findings that the MELAA groups had a younger population and a smaller proportion of people in the older age groups compared with Others.

**Figure 54: Proportion of pharmaceutical costs claimed by age and ethnicity, Auckland region, 2009**




Source: NDSA Pharmaceutical NHI Extracts dispensed 2009, custom prioritised ethnicity

### 9.5.5 Labs Data

Laboratory tests data was evaluated as a measure to determine access to laboratory investigations for the different MELAA ethnicities compared to Others. The nominal dollar value is the estimated total

subsidies that would have been paid to laboratories, if they were not bulk funded. The nominal value per person is calculated by dividing the cost in each age group by the population number in that age group in 2009.

**Laboratory nominal value of costs claimed per person**

Figure 55 shows that the nominal value of costs claimed per person for laboratory investigation generally increased with age in 2009. The African population had a dip in age group 75+ years, which is likely to be an outlier value as the trend was for costs to increase with age.

Middle Eastern people had similar trends in the different age groups as that seen in Others. In African people, from age 30 years, the value of costs claimed per person was less than that seen in corresponding Others, and was the lowest in the MELAA group. Latin Americans overall had higher costs claimed per person than Others in each age group.

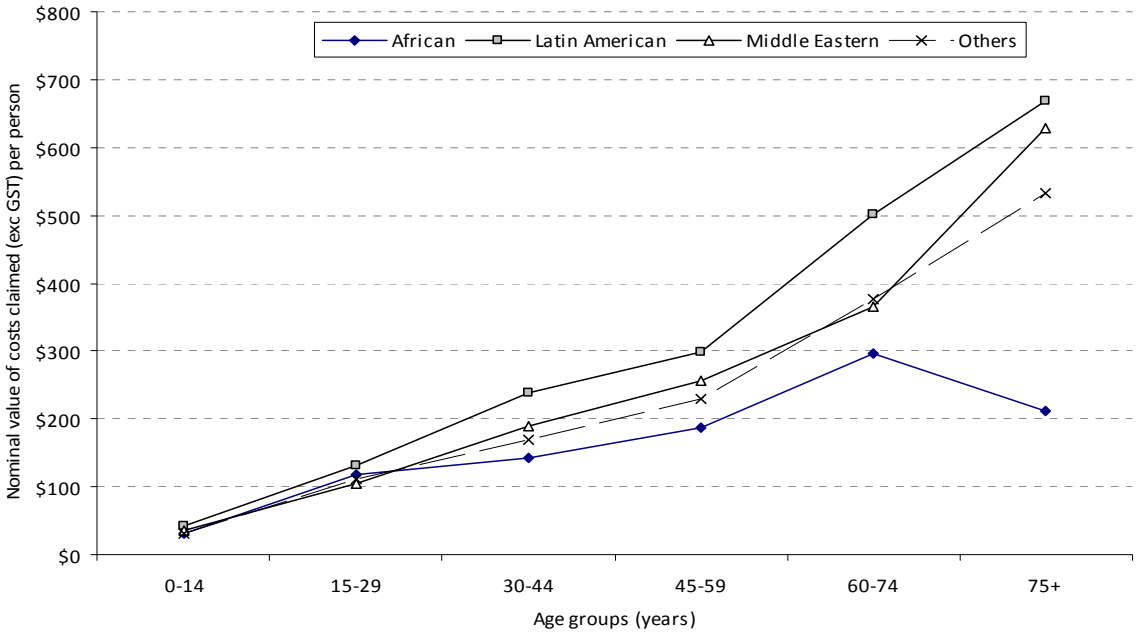
Within each ethnicity:

- African women had higher costs claimed per person compared with men from age 15 years upwards.
- Latin American women had higher costs claimed per person compared with men from ages 15 to 59, but became lower than men thereafter
- Middle Eastern women had higher costs claimed per person compared with men from ages 15 upwards, but the difference is greatest from 15 to 59 years of age

Within each gender group:

- African women had the lowest costs claimed per person from 30 years of age upwards compared with all other ethnicities.
- African men had the lowest costs claimed per person from 30 years of age upwards compared with all other ethnicities

**Figure 55: Total nominal dollar value (excluding GST) per person for laboratory investigations, by age groups and ethnicity, Auckland region domiciled population, 2009**



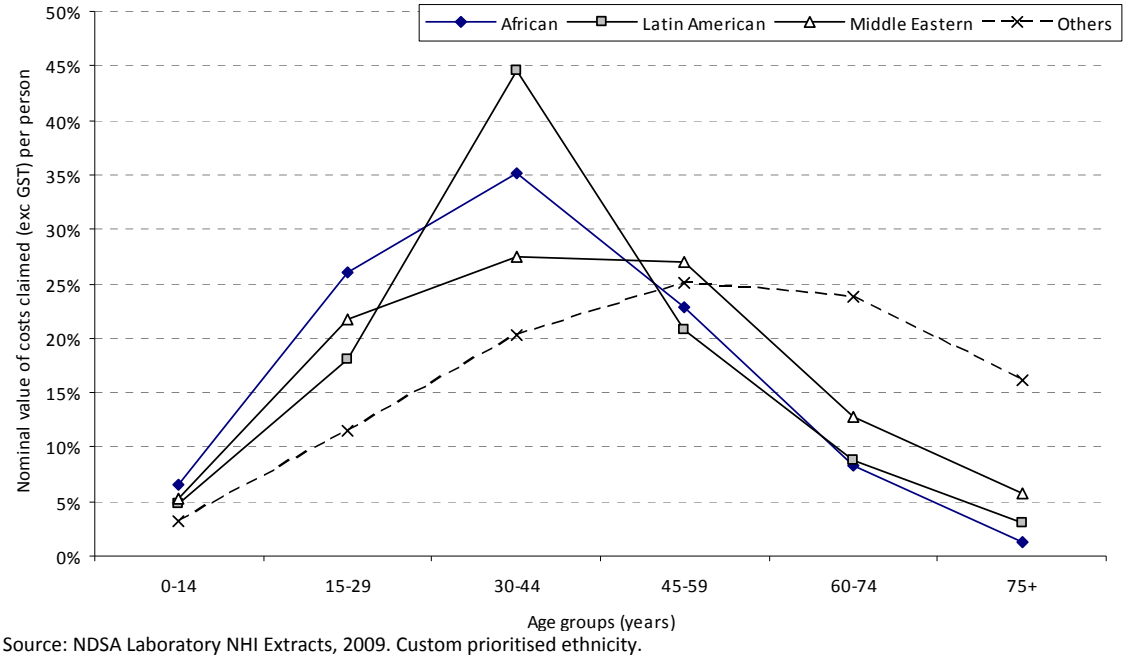

Source: NDSA Laboratory NHI Extracts, 2009. Custom prioritised ethnicity.
Note: The nominal dollar value is the estimated total subsidies that would have been paid to laboratories, if they were not bulk funded. For bulk funded labs if the value of claims is null, nominal dollar value (excl GST) is used.

**Proportion of costs claimed by age groups**

Figure 56 shows proportion of laboratory nominal costs claimed by each age group within each ethnicity.

In all three MELAA ethnicities, the age group with the highest costs claimed was the 30 to 44 years age group. The younger age groups (0-44 years) in the MELAA ethnicities had higher proportions of costs claimed than older age groups. This is the opposite of what was seen in Others where the highest proportion of nominal laboratory costs claimed were in the older age groups (45 to 74 years). This is in keeping with the fact that all three MELAA populations had much younger populations than Others.

**Figure 56: Proportion of total nominal dollar value (excluding GST) for laboratory tests claimed by each age group within each ethnicity, Auckland region, 2009**




Source: NDSA Laboratory NHI Extracts, 2009. Custom prioritised ethnicity.
Note: The nominal dollar value is the estimated total subsidies that would have been paid to laboratories, if they were not bulk funded. For bulk funded labs if the value of claims is null, nominal dollar value (excl GST) is used.

### 9.5.6 Adult potentially avoidable hospitalisations- all causes

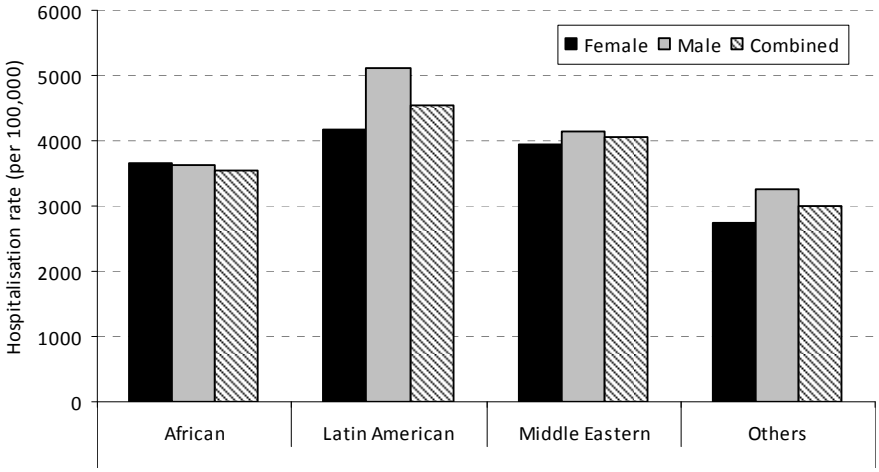
Potentially avoidable hospitalisations (PAH) are proxy indicators of 'non-fatal' avoidable health outcomes as opposed to potentially avoidable mortality (PAM)(55). Appendix 4 provides a list of the indicators defined as PAH. PAH can be divided into three subcategories:

- *Preventable hospitalisations* (PH): hospitalisations resulting from diseases preventable through population-based health promotion strategies.
- *Ambulatory-sensitive hospitalisations* (ASH): hospitalisations resulting from diseases sensitive to prophylactic or therapeutic interventions deliverable in a primary health care setting.
- *Injury-preventable hospitalisations* (IP): hospitalisations avoidable through injury prevention.

In adults (15 years +), an upper age threshold of 75 years is used when reporting on PAH indicators as there is a high level of co-morbidities from age 75 years up. This analysis of PAH excludes *'Injury preventable hospitalisation'* data, as different preventive strategies are needed to address them.

Figure 57 shows that all three MELAA ethnicities had higher PAH rates from all causes than Others.

**Figure 57: Adult (15-74 years) age standardised PAH rate in the Auckland region for all causes, by gender and ethnicity, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

### 9.5.7 Adult potentially avoidable hospitalisations – top 10 causes

The top 10 leading causes of PAH, by ethnicity and gender, for the Auckland region is shown in Table 30.

For all ethnicities, the top PAH cause was 'angina and chest pain' admissions, followed closely by 'diabetes' (in African and Middle Eastern people). The leading causes and the differences between ethnicities and gender will be discussed further in the next chapter (Chapter 10).

**Table 30: Adult (15-74 years) age standardised PAH rate (per 100,000) in the Auckland region for top 10 causes in each ethnic group, males and females combined, 2006-2009**

| Rank | African | | Latin American | | Middle Eastern | | Others | |
|---|---|---|---|---|---|---|---|---|
| | Cause of PAH | ASR | Cause of PAH | ASR | Cause of PAH | ASR | Cause of PAH | ASR |
| **1** | Angina and chest pain | 860 | Angina and chest pain | 1453 | Angina and chest pain | 1397 | Angina and chest pain | 700 |
| **2** | Diabetes | 406 | Kidney/urinary infection | 370 | Diabetes | 356 | Cellulitis | 243 |
| **3** | Respiratory infections - Pneumonia | 233 | Sexually transmitted diseases | 243 | Kidney/urinary infection | 207 | Diabetes | 162 |
| **4** | Cellulitis | 212 | Cellulitis | 238 | Cellulitis | 185 | Kidney/urinary infection | 155 |
| **5** | Kidney/urinary infection | 203 | Asthma | 238 | Myocardial infarction | 168 | Myocardial infarction | 154 |
| **6** | Sexually transmitted diseases | 175 | Respiratory infections - Pneumonia | 222 | Asthma | 161 | Skin cancers | 147 |
| **7** | Asthma | 159 | Diabetes | 215 | Respiratory infections - Pneumonia | 148 | CORD | 144 |
| **8** | Myocardial infarction | 146 | Respiratory infections - Other | 150 | CORD | 145 | Respiratory infections - Pneumonia | 132 |
| **9** | Respiratory infections - Other | 104 | ENT infections | 150 | Respiratory infections - Other | 136 | Sexually transmitted diseases | 101 |
| **10** | Skin cancers | 97 | Gastroenteritis | 150 | ENT infections | 107 | Epilepsy | 98 |

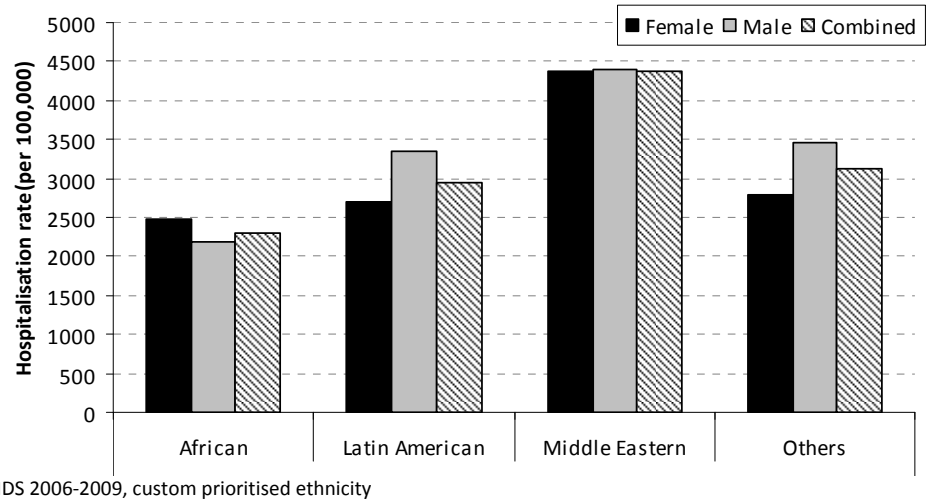
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

### 9.5.8 Adult ASH indicators- all causes

Ambulatory-sensitive hospitalisations (ASH) are hospitalisations resulting from diseases sensitive to prophylactic or therapeutic interventions deliverable in a *primary health care* setting. ASH are a current

indicator of DHB performance in New Zealand(56). In 2007/2008, reducing ASH admissions was introduced as a Health Target by the MOH(57) and was used as a proxy to measure the effectiveness of primary care. Figure 58 shows that Middle Eastern people had the highest rate of ASH within the MELAA groups and higher than Others. Latin American and African people had lower ASH rates than Others.

**Figure 58: Adult (15-74 years) age standardised ASH rate (per 100,000) in the Auckland region, for all causes, by gender and ethnicity, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific. Weighted ASH rate (see Appendix 4 for weighting details).

### 9.5.9 Adult ambulatory sensitive hospitalisations – top 10 causes

Table 31 shows the top 10 causes for ASH by ethnicity. Similar to the causes of PAH, 'angina and chest pain' admissions were the leading cause of ASH for all ethnicities.

**Table 31: Top 10 causes of ASH admissions for adult (15-74 years), Auckland region, 2006-2009**

| Rank | African | | Latin American | | Middle Eastern | | Others | |
|---|---|---|---|---|---|---|---|---|
| | Cause of ASH | Rate | Causes of ASH | Rate | Causes of ASH | Rate | Causes of ASH | Rate |
| 1 | Angina and chest pain | 777 | Angina and chest pain | 1407 | Angina and chest pain | 1716 | Angina and chest pain | 1178 |
| 2 | Diabetes | 243 | Kidney/urinary infection | 370 | Kidney/urinary infection | 432 | Myocardial infarction | 416 |
| 3 | Respiratory infections - Pneumonia | 233 | Upper respiratory tract and ENT infections | 243 | Myocardial infarction | 415 | Cellulitis | 307 |
| 4 | Cellulitis | 212 | Asthma | 238 | Congestive heart failure | 352 | Respiratory infections - Pneumonia | 290 |
| 5 | Kidney/urinary infection | 203 | Cellulitis | 238 | Respiratory infections - Pneumonia | 344 | Stroke | 260 |
| 6 | Asthma | 159 | Respiratory infections - Pneumonia | 222 | Constipation | 278 | Kidney/urinary infection | 259 |
| 7 | Myocardial infarction | 146 | Diabetes | 215 | Stroke | 269 | Diabetes | 200 |
| 8 | Gastroenteritis/ dehydration | 139 | Gastroenteritis/ dehydration | 162 | GORD (Gastro-oesophageal reflux disease) | 251 | Congestive heart failure | 197 |
| 9 | Constipation | 120 | Myocardial infarction | 146 | Gastroenteritis/ dehydration | 230 | Gastroenteritis/ dehydration | 169 |
| 10 | Upper respiratory tract and ENT infections | 113 | GORD (Gastro-oesophageal reflux disease) | 116 | Diabetes | 196 | Epilepsy | 130 |

Source: NMDS 2006-2009, custom prioritised ethnicity.

Note: Others= non-MELAA, non-Maori, and non-Pacific. Non-weighted ASH rates (age standardised rate per 100,000).

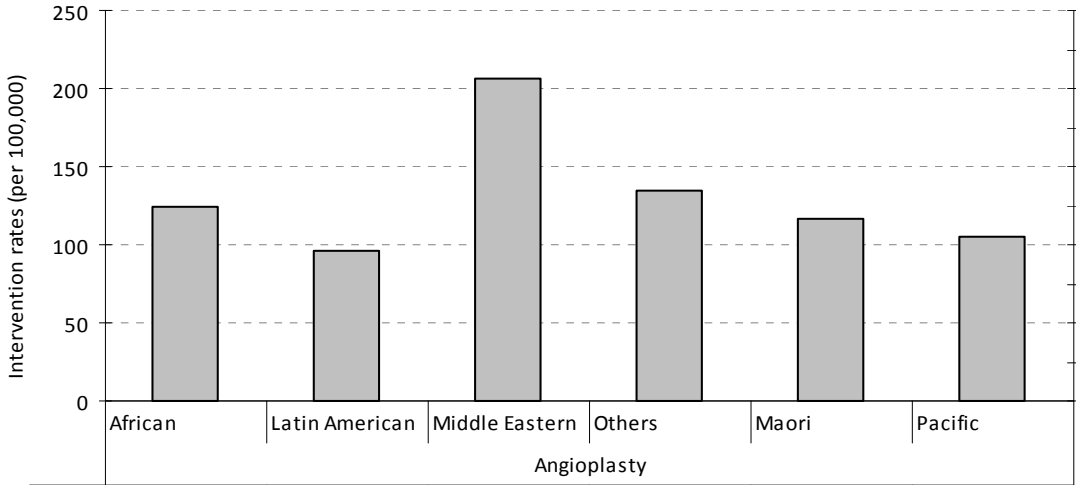
## 9.5.10 Adult surgical indicators

Adult surgical indicators give us a picture of access for the different ethnicities to relatively high-cost, high-volume surgical procedures in hospital. This section presents the surgical intervention rates in the Auckland region by ethnicity in adults.

### 9.5.10.1 Angioplasty

Angioplasty is a type of percutaneous coronary intervention that is usually used to treat narrowed coronary arteries, commonly found in ischaemic heart disease.

**Figure 59: Age standardised angioplasty intervention rate in the Auckland region, 15+ year olds, by ethnicity, 2006-2009**




| | African | Latin American | Middle Eastern | Others | Maori | Pacific |
|---|---|---|---|---|---|---|
| ASR | 125 | 97 | 206 | 134 | 117 | 105 |
| Events | 15 | 6 | 55 | 4466 | 331 | 397 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator populations for Maori and Pacific were sourced from Census data.

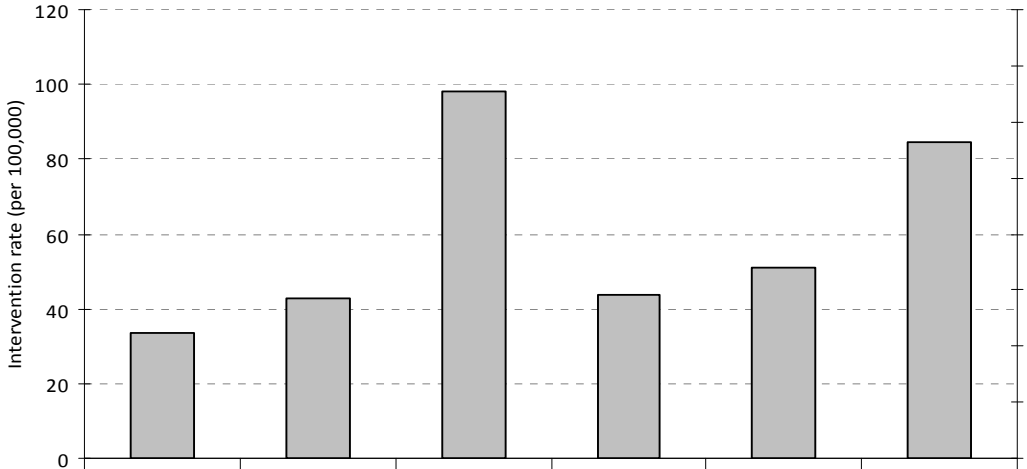
Middle Eastern people appeared to have the highest rate of angioplasty interventions in the Auckland region compared with all other ethnicities. Latin American and African people had a relatively small number of procedures done, so the calculated rates have to be interpreted with caution.

### 9.5.10.2 Coronary Artery Bypass Graft (CABG)

Coronary Artery Bypass Graft (CABG) is an operation commonly indicated in people with severe coronary arterial disease.

Similar to the trend seen for angioplasty, Middle Eastern people appeared to have the highest CABG rates compared with all other ethnicities. African and Latin Americans had lower intervention rates than Others, but the number of events was small.

**Figure 60: Age standardised CABG intervention rates, 15+ year olds, by ethnicity, for the Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others | Maori | Pacific |
|---|---|---|---|---|---|---|
| | Coronary artery bypass grafts | | | | | |
| ASR | 33 | 43 | 98 | 44 | 51 | 85 |
| Events | 6 | 2 | 21 | 1435 | 144 | 303 |

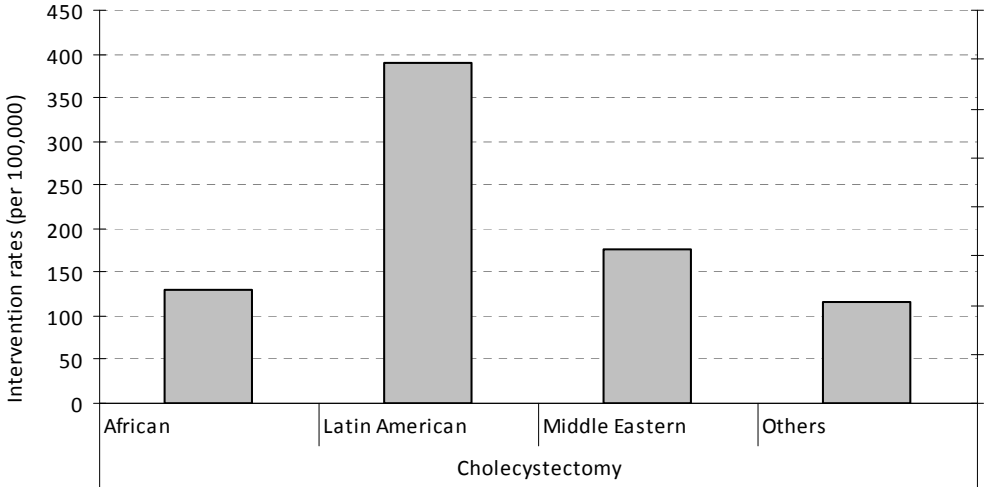
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator populations for Maori and Pacific were sourced from Census data.

### 9.5.10.3 Cholecystectomy

Cholecystectomy is a procedure where a part or the whole gall bladder is surgically removed via an 'open' or laparoscopic procedure. It is usually indicated as a treatment for symptomatic gallstones.

Figure 61 shows that Latin American people had the highest intervention rate compared with all other ethnicities (approximately three fold the rate for Others) for cholecystectomies, although the number of procedures was only 17 in four years. It is unclear why they had such a high intervention rate compared with other ethnicities.

**Figure 61: Age standardised cholecystectomy intervention rates, 15+ year olds, by ethnicity, for the Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Cholecystectomy | | | |
| ASR | 130 | 389 | 175 | 117 |
| Events | 31 | 17 | 65 | 3793 |

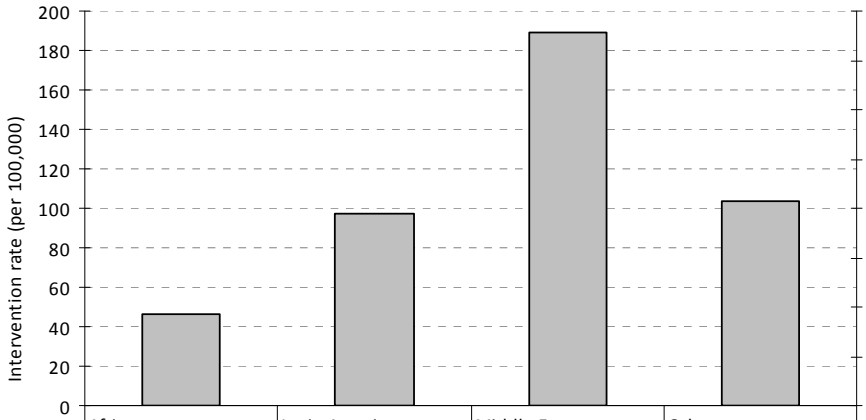
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

#### 9.5.10.4 Total knee joint replacement (TKJR)

Total knee joint replacement is an operative procedure commonly done in patients who have severe osteoarthritis in the knee.

Figure 62 shows that the TKJR intervention rate was higher in Middle Eastern people compared with Others. The number of events for Africans and Latin Americans was too small to comment on rates.

**Figure 62: Total knee joint replacement intervention rate, 15+year olds, by ethnicity, for the Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Total knee joint replacement | | | |
| ASR | 46 | 97 | 189 | 103 |
| Events | 6 | 1 | 38 | 3374 |

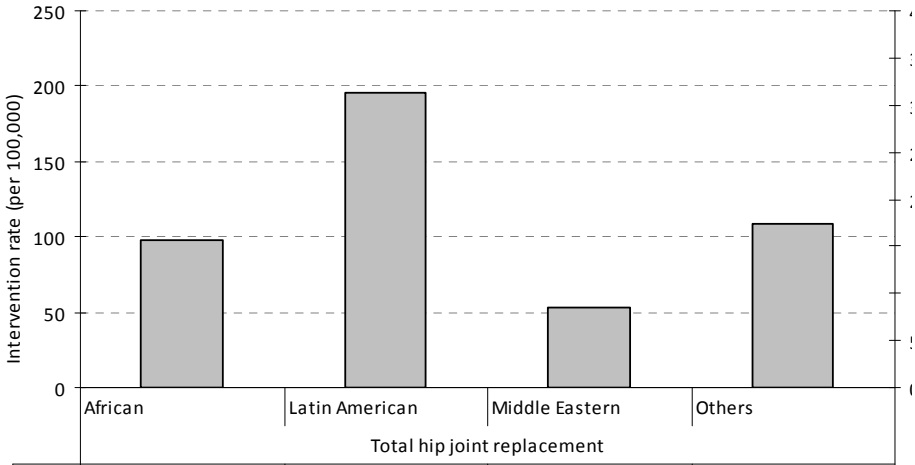
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, and non-Pacific people.

#### 9.5.10.5 Total hip joint replacement (THJR)

Total hip joint replacements are indicated in people with severe osteoarthritis of the hip. It is a procedure commonly done in elderly patients.

Figure 63 shows that the intervention rates for THJRs were lower for African and Middle Eastern people compared with Others. The number of events for Latin Americans was too small to comment on the rate.

**Figure 63: Total hip joint replacement intervention rates, 15+year olds, by ethnicity, for the Auckland region, 2006-2009**



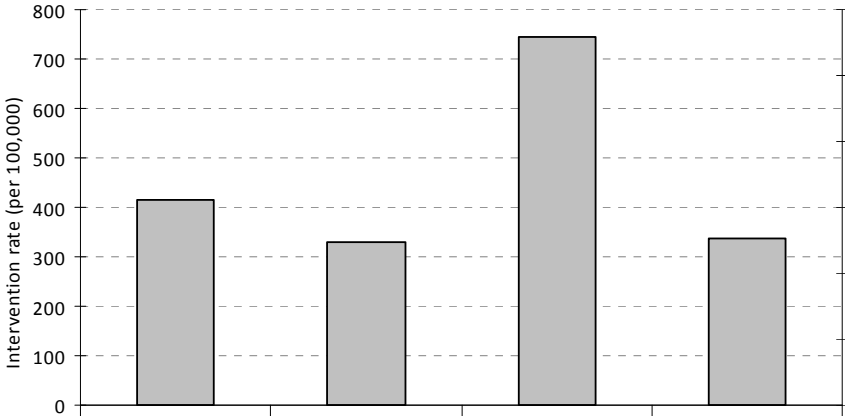

| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Total hip joint replacement | | | |
| ASR | 98 | 196 | 53 | 109 |
| Events | 14 | 3 | 9 | 3570 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

#### 9.5.10.6 Cataract extractions

Cataract extractions are a common ophthalmological procedure. Cataracts are the most common cause of blindness in the developing world and a common cause of cataracts in New Zealand is diabetes.

**Figure 64: Age standardised cataract extraction intervention rates, 15+ year olds, by ethnicity, for the Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Cataract extraction | | | |
| ASR | 413 | 329 | 746 | 338 |
| Events | 42 | 7 | 128 | 10992 |

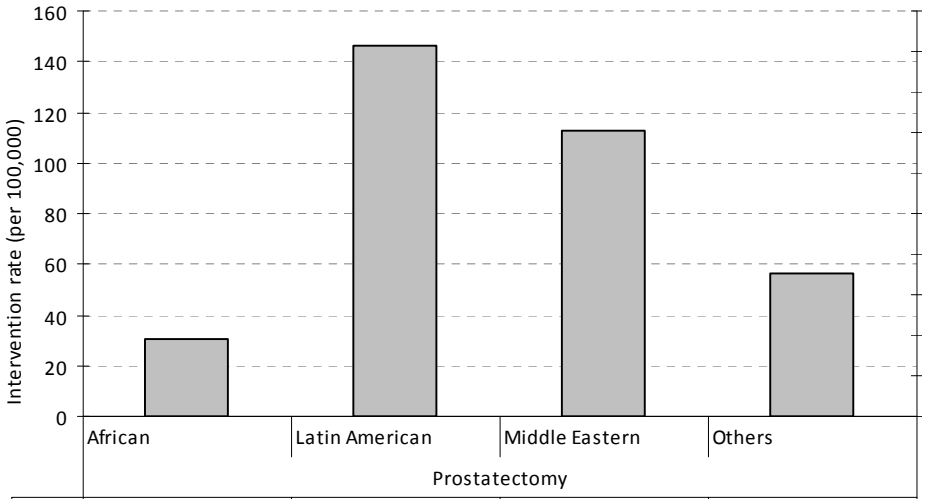
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

Figure 64 shows that cataract intervention rate was highest for Middle Eastern people compared with all other ethnicities. The intervention rate in Middle Eastern people was more than double the rate for Others.

#### 9.5.10.7 Prostatectomy

Prostatectomy is a procedure where a part or the whole of the prostate gland is removed. This is commonly indicated in conditions such as benign prostate hypertrophy or prostate tumours.

**Figure 65: Age standardised prostatectomy intervention rates, 15+ year old males, by ethnicity, Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Prostatectomy | | | |
| ASR | 30 | 146 | 112 | 57 |
| Events | 1 | 2 | 19 | 1848 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

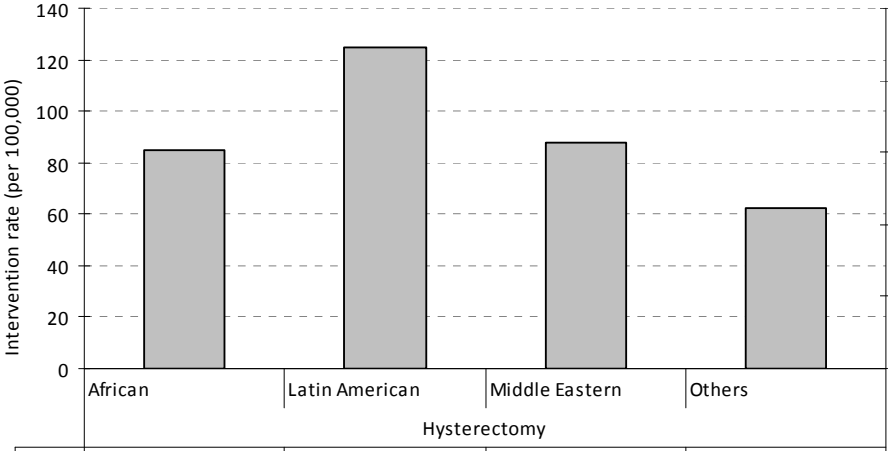
Middle Eastern people had a higher prostatectomy intervention rate than Others. However, the number of interventions done for the MELAA groups was quite small compared with Others and rates have to be interpreted with caution.

#### 9.5.10.8 Hysterectomy

Hysterectomies are one of the most common gynaecological surgeries performed. It is a procedure where the uterus (and/or the cervix) is removed, usually indicated for endometriosis and abnormal bleeding.

Figure 66 shows that the hysterectomy rates appeared higher for African and Middle Eastern people compared with Others. The number of events for Latin Americans was too small to comment on the rate.

**Figure 66: Age standardised hysterectomy intervention rate (per 100,000), 15+ year old females, by ethnicity, for the Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| ASR | 85 | 125 | 88 | 62 |
| Events | 20 | 5 | 31 | 2045 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

## *9.6 Summary- health services utilisation*

- Primary health organisation (PHO) enrolment
  - The percentage enrolled with a PHO for the MELAA group was higher than Others.
  - From 2006 to 2010, Latin American people had the greatest average annual increase in enrolment, followed by Africans then Middle Eastern people.
- Community Services Card use
  - Only 23% of African people enrolled with a PHO in the Auckland region have a CSC. This is lower than what would be expected considering they are the ethnicity with the highest deprivation levels, almost 40% have an annual income ranging from loss to <$20,000 and 20% are on a type of benefit.
- Oral Health
  - Adult Middle Eastern people had the highest rate of hospitalisations from dental conditions compared with all other ethnicities.
- Clinical preventive services use
  - Cervical screening data: All three MELAA groups had lower NCSP unadjusted coverage then Europeans. Middle Eastern women had the lowest unadjusted coverage. African women also had very low coverage compared with Europeans
  - Breast screening data: African women the lowest coverage within the MELAA group and had a lower coverage than European women.
- Emergency department utilisation

  - The utilisation rate was the lowest in African people and highest in Latin Americans compared with all other ethnicities. The Middle Eastern prevalence of ED utilisation was higher than Others.
- Outpatient clinic DNA rates
  - The African population in WDHB had the highest DNA percentage in 2009 compared to all other ethnicities.
  - In CMDHB, all three MELAA groups had higher DNA percentages than Europeans.
  - In ADHB, African people had twice the DNA percentage of Europeans.
- Pharmaceutical utilisation
  - African people from age 10-69 years had the highest cost of dispensed pharmaceuticals compared with all other ethnicities which may be explained by the costs associated with HIV medications.
  - The greatest proportion of pharmaceutical spend within each ethnicity occurred in the 35 to 44 years age bands for all MELAA ethnicities. All three MELAA ethnicities proportionally also had less pharmaceutical spend in the older age groups compared with Others.
- Laboratory utilisation
  - In African people, from age 30 years, the value of costs claimed per person was less than that seen in corresponding Others, and was the lowest in the MELAA group.
  - In all three MELAA ethnicities, the age group with the highest costs claimed was the 30-44 years age group. The younger age groups (0-44 years) in the MELAA ethnicities had higher proportions of costs claimed than older age groups, the opposite of what was seen for Others.
- Potentially avoidable hospitalisation rates and causes
  - All three MELAA ethnicities had higher PAH rates from all causes than Others.
  - For all ethnicities, the top PAH cause is 'angina and chest pain' admissions, followed closely by 'diabetes' (in Africans and Middle Eastern people).
- Ambulatory sensitive hospitalisation rates and causes
  - Middle Eastern people had a higher rate of ASH than Others, while Africans and Latin Americans had lower rates.
  - The leading cause of ASH in all ethnicities was 'angina and chest pain'.
- Access to surgical procedures in hospital
  - MELAA appear to have good access to elective surgery in the public system across the Auckland Region. Middle Eastern people appeared have the highest rate of angioplasty and CABG interventions in the Auckland region compared with all other ethnicities.

# 10

# 11 Important conditions in adults

This chapter discusses the following conditions:

- Cardiovascular disease
- Diabetes
- Cancer
- Respiratory diseases
- Infectious diseases
- Mental health conditions

## *11.1 Cardiovascular disease*

Cardiovascular diseases (CVD) are the leading cause of potentially avoidable mortality in all ethnicities (see Table 20, page 51). CVD is defined as a group of diseases that affect the circulatory system of the human body and includes coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease and venous thrombo-embolic disease.(58)

### 11.1.1 CVD prevalence

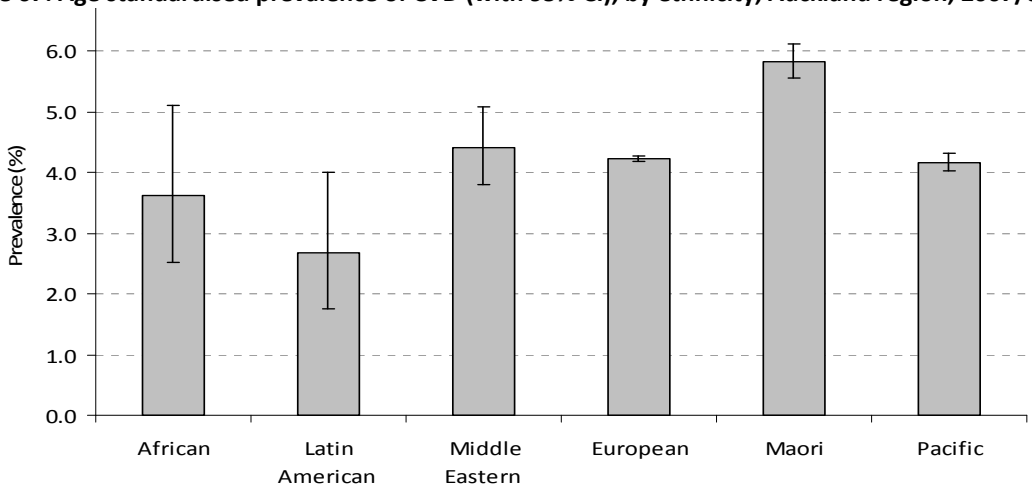
Data from the New Zealand Health Tracker (NZHT) project was analysed to present CVD prevalence rates for the Middle Eastern, Latin American and African populations in the Auckland region. The data presented does not exclude any deaths that may have occurred in the same period and hence is a proxy of 'true' prevalence rates (see Appendix 5, page 150 for the data used by the NZHT project).

**Table 32: Estimated number of people with prevalent cardiovascular disease (CVD) by ethnicity, Auckland region, 2007/08**

| Measures | African | Latin American | Middle Eastern | European | Maori | Pacific |
|---|---|---|---|---|---|---|
| Number of people diagnosed with CVD | 103 | 39 | 305 | 32587 | 3306 | 4496 |
| Population number used in NZHT* | 9608 | 3087 | 13898 | 685701 | 141564 | 206911 |
| Crude prevalence (%) | 1.1 | 1.3 | 2.2 | 4.8 | 2.3 | 2.2 |
| WHO world population age standardised prevalence, (with 95% Confidence Intervals) | 3.6 (5.1-2.5) | 2.7 (4.0-1.7) | 4.4 (5.1-3.8) | 4.2 (4.3-4.2) | 5.8 (6.1-5.6) | 4.2 (4.3-4.0) |

Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity
Note: * The NZHT project uses a 2006/07 population derived from national health data collections and NHI as the denominator (see Appendix 5). WHO world population used for standardisation.

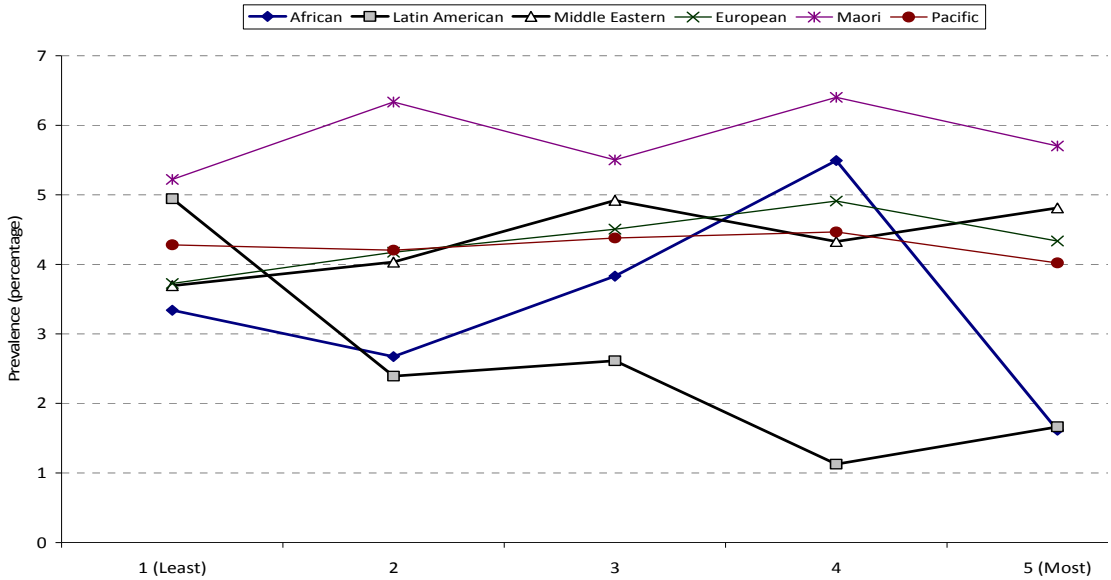
**Figure 67: Age standardised prevalence of CVD (with 95% CI), by ethnicity, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity
Note: * The NZHT project uses a 2006/07 population derived from national health data collections and NHI as the denominator (see Appendix 5). WHO world population used for standardisation.

Figure 67 shows that in 2007, the estimated prevalence of CVD in the Auckland region may have been the second highest in Middle Eastern people compared with all other ethnicities. The data is suggestive but not conclusive as the confidence interval for Middle Eastern prevalence overlaps with several other ethnicities, making the differences not statistically significant. African and Latin Americans had lower age standardised prevalence of CVD than Europeans, but again the confidence intervals overlap. All estimated prevalence of CVD for the MELAA ethnicities do have to be interpreted with caution due to the small denominator sizes.

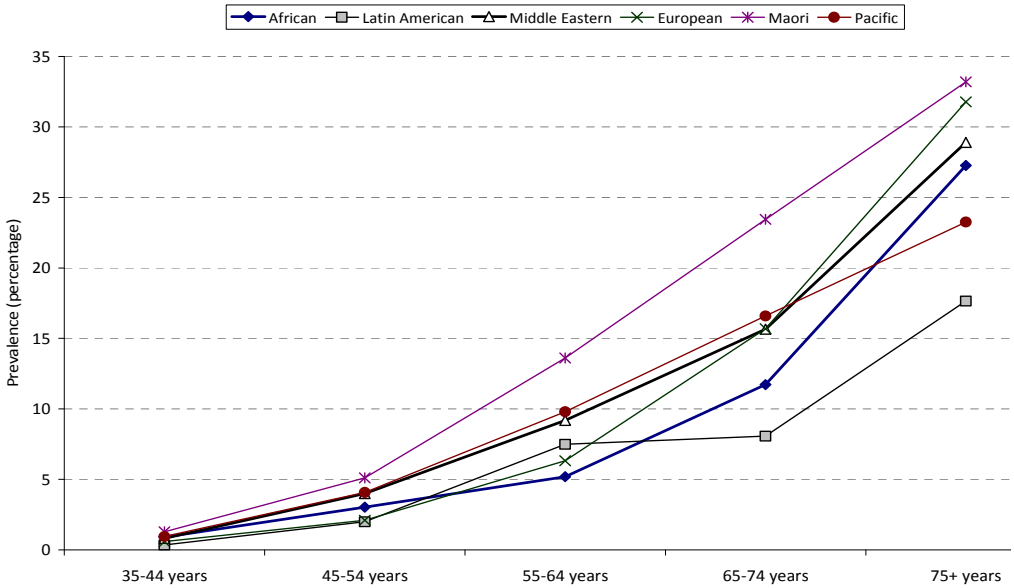
**Figure 68: Age standardised prevalence of CVD, by ethnicity and deprivation quintiles, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity, NZDep 2001 Index

Figure 68 shows the age standardised prevalence by ethnicity and NZDeprivation quintiles. For Middle Eastern people, the trend was for the prevalence to increase with deprivation, similar to Maori. In African people the CVD prevalence dropped in Quintile 5, but this is likely to be an outlier value as the general trend was for CVD prevalence to increase with deprivation. In Latin Americans, the trend was for CVD prevalence to decrease with increasing deprivation. It is unclear why this was the case for this ethnicity only.

**Figure 69: Age specific prevalence of CVD, by ethnicity, Auckland region, 2007/08**



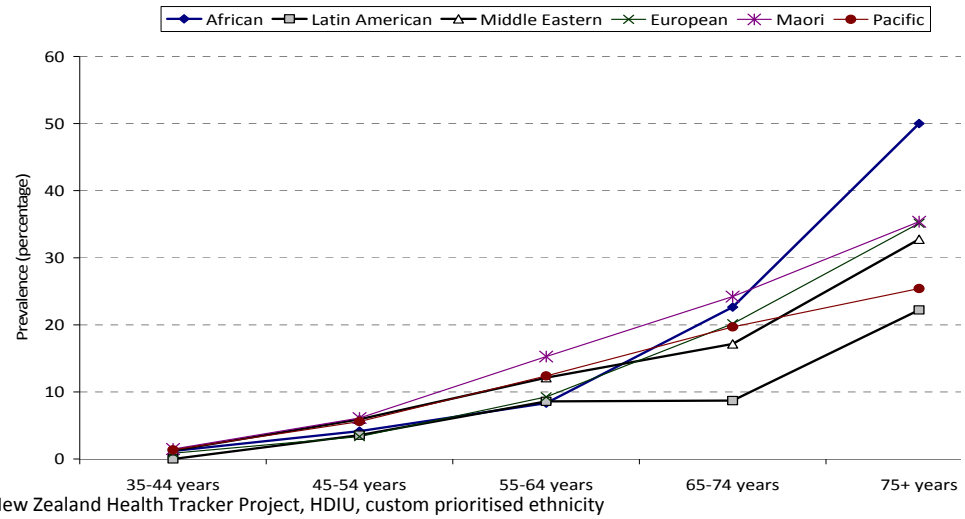

Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

Figure 69 shows that the prevalence of CVD increased rapidly in all ethnicities from age 35 years upwards. From ages 35 to 64 years, Middle Eastern people had a higher prevalence of CVD than Europeans, similar to the Pacific prevalence. The African people in the 45-54 years age band had a higher prevalence of CVD than Europeans, which then became less than the European prevalence in the older age groups. Latin American in the 55-64 year age band appeared to have a higher prevalence of CVD than Europeans, which then became less than the European prevalence in the older age bands.

When analysing age specific prevalence of CVD stratified by gender within each MELAA population, the following trends were noted:

- African males had a higher prevalence of CVD from age 35 years onwards compared with African females, with the disparity widening as the population became older.
- Latin American females had a lower prevalence of CVD than their male counter parts.
- Middle Eastern males had a higher prevalence of CVD compared with females from age 35 years onwards.

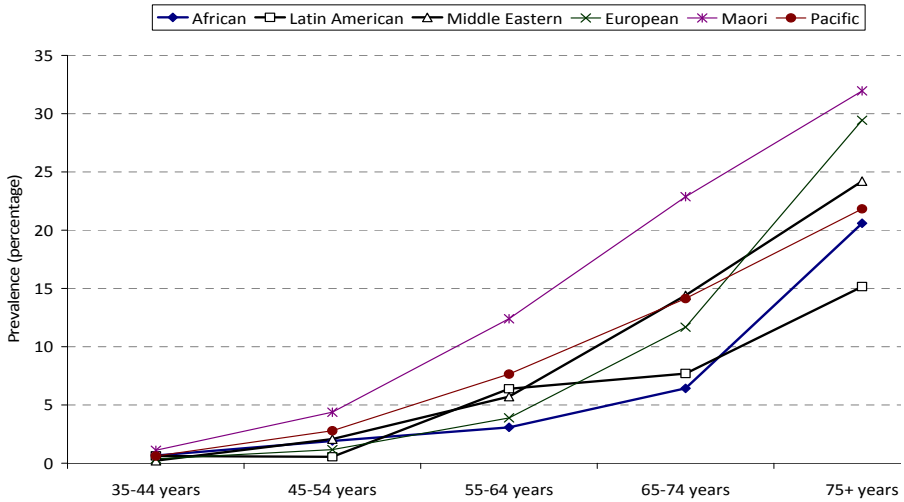
**Figure 70: Age specific prevalence of CVD by ethnicity in males, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

Figure 70 shows the age specific prevalence of CVD by ethnicity in males only in the Auckland region. African males had a marked rise in CVD prevalence from age 55 years onwards, becoming the ethnicity with the highest prevalence in the 75+ years age group. This rate however had a very small numerator count which makes it unstable and should be interpreted with caution.

**Figure 71: Age specific prevalence of CVD by ethnicity in females, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

Figure 71 shows the age specific prevalence of CVD by ethnicity in females only in the Auckland region. Middle Eastern women appeared to have a similar trend in prevalence of CVD as that of Pacific women, which was higher than European women until 74 years of age. African women in the 45-54 years age group appeared to have a higher prevalence of CVD than European women, but the prevalence became less than European women in the older age groups. Latin American women had a higher prevalence of CVD than Europeans in the 55-64 years age group.

### 11.1.2 Angina and chest pain hospitalisation data

Middle Eastern males and females appeared to have higher rates of hospitalisations from angina and chest pain than Others, Maori and Pacific (Figure 72). Latin American men appeared to have higher hospitalisation rates than Middle Eastern men. In all ethnicities, males had higher hospitalisation rates than females, except in Maori.

**Figure 72: Adult (15-74 years) age standardised PAH rates for angina and chest pain, by gender and ethnicity, for the Auckland region, 2006-2009**

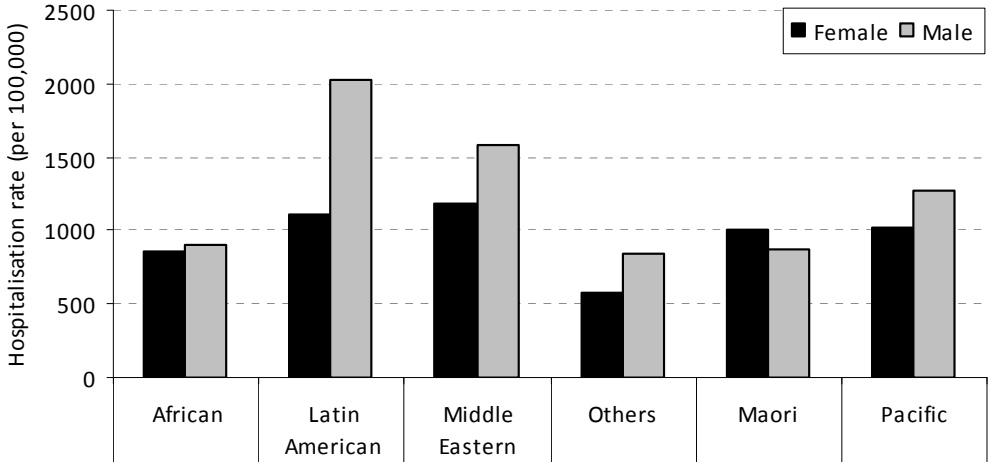



**Table 33: Age standardised rate (per 100,000) and total number of hospitalisations for angina and chest pain by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **864** | 86 | **905** | 87 |
| Latin American | **1104** | 32 | **2027** | 39 |
| Middle Eastern | **1186** | 186 | **1580** | 288 |
| Others | **571** | 9102 | **840** | 12381 |
| Maori | **1007** | 1768 | **869** | 1373 |
| Pacific | **1026** | 2190 | **1269** | 2395 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator population for Maori and Pacific was sourced from Census data, estimated resident population.

### 11.1.3 Myocardial infarction hospitalisation data

The hospitalisation rate from myocardial infarction in men was higher for all MELAA ethnicities compared with Others (Figure 73). The number of events in Latin American men was small and the rate should be interpreted with caution.

**Figure 73: Adult (15-74 years) age standardised hospitalisation rates for myocardial infarction, by ethnicity and gender, Auckland region, 2006-2009**

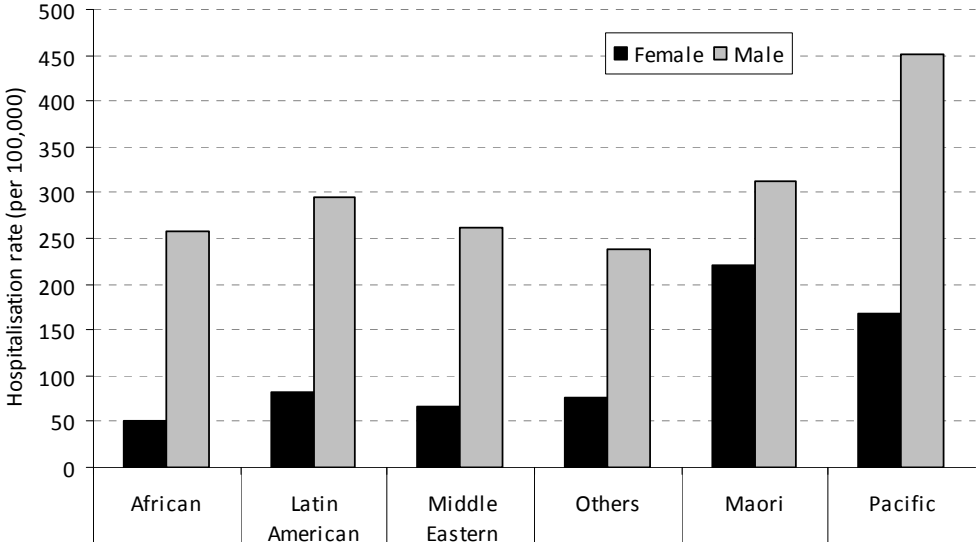



**Table 34: Age standardised rate (per 100,000) and total number of hospitalisations for myocardial infarction by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **52** | 5 | **258** | 21 |
| Latin American | **82** | 3 | **295** | 3 |
| Middle Eastern | **66** | 7 | **261** | 41 |
| Others | **76** | 1199 | **238** | 3576 |
| Maori | **222** | 327 | **313** | 434 |
| Pacific | **167** | 298 | **451** | 750 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator population for Maori and Pacific was sourced from Census data, estimated resident population.

### 11.1.4 Stroke hospitalisation data

Analyses of stroke hospitalisation rates show that Middle Eastern people appeared to have a lower rate than Others (Figure 74). The total events were small in each of the MELAA groups, making the estimated rate prone to fluctuations and should be interpreted with caution.

**Figure 74: Age standardised rate (per 100,000) of hospitalisations for stroke by gender and ethnicity, for the Auckland region, 2006-2009**

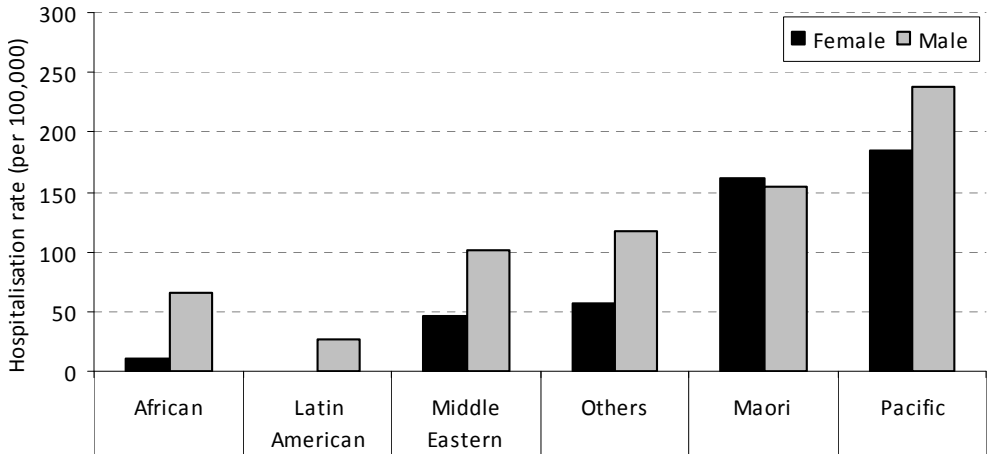


**Table 35: Age standardised rate (per 100,000) and total number of hospitalisations for stroke by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **11** | 1 | **66** | 4 |
| Latin American | **0** | 0 | **27** | 1 |
| Middle Eastern | **45** | 6 | **101** | 11 |
| Others | **56** | 883 | **117** | 1734 |
| Maori | **162** | 240 | **154** | 204 |
| Pacific | **185** | 344 | **238** | 371 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator population for Maori and Pacific was sourced from Census data, estimated resident population.

## *11.2 Diabetes*

Data from the New Zealand Health Tracker project was analysed to capture diabetes prevalence rates for the Middle Eastern, Latin American and African populations.

### 11.2.1 Diabetes prevalence

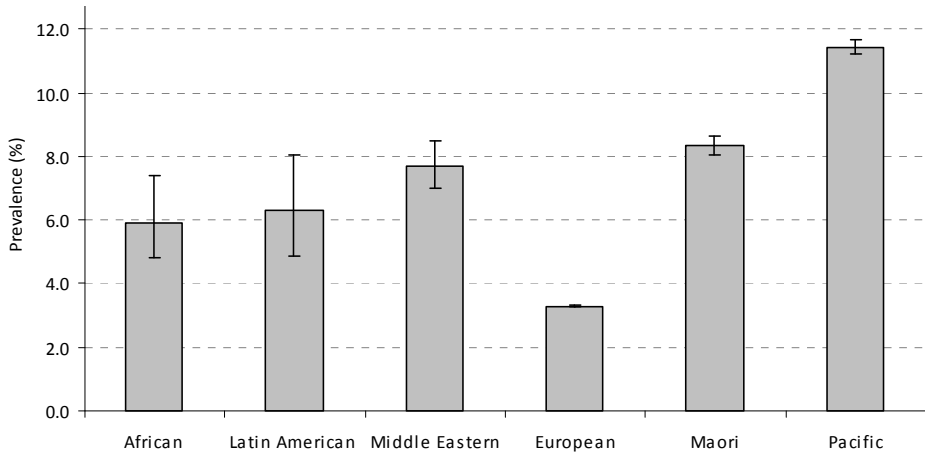
In 2007, the age standardised prevalence of diabetes was higher in all MELAA ethnicities than in Europeans (all values statistically significant). Within the MELAA group, the difference between diabetes prevalence rates was greatest between Middle Eastern and Europeans.

**Table 36: Estimated number of people with prevalent diabetes by ethnicity, Auckland region, 2007/08**

| Measures | African | Latin American | Middle Eastern | European | Maori | Pacific |
|---|---|---|---|---|---|---|
| Number of people diagnosed with diabetes | 341 | 120 | 758 | 27822 | 6927 | 16502 |
| Population number used in NZHT* | 9608 | 3087 | 13898 | 685701 | 141564 | 206911 |
| Crude prevalence (%) | 3.5 | 3.9 | 5.5 | 4.1 | 4.9 | 8.0 |
| WHO world population age standardised prevalence, with 95% CI | 5.9 (4.8-7.4) | 6.3 (4.9-8.1) | 7.7 (7.0-8.5) | 3.3 (3.3-3.3) | 8.3 (8.0-8.6) | 11.4 (11.2-11.7) |

Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

**Figure 75: Age standardised prevalence of diabetes (with 95% CI), by ethnicity, Auckland region, 2007/08**

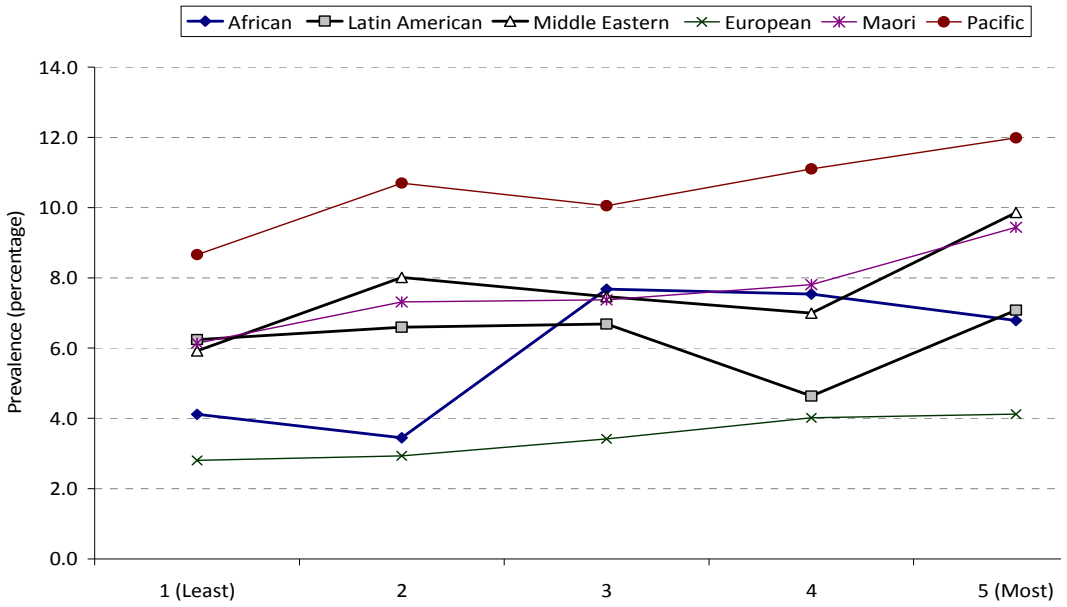



Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

When analysing the age standardised prevalence of diabetes by ethnicity and deprivation quintiles, there is a trend in all ethnicities for diabetes prevalence to increase with deprivation (Figure 76). All MELAA ethnicities had a higher prevalence of diabetes than Europeans in each quintile of deprivation.

This shows that even within the same level of deprivation, significant variation by ethnicity in the distribution of diabetes prevalence existed.

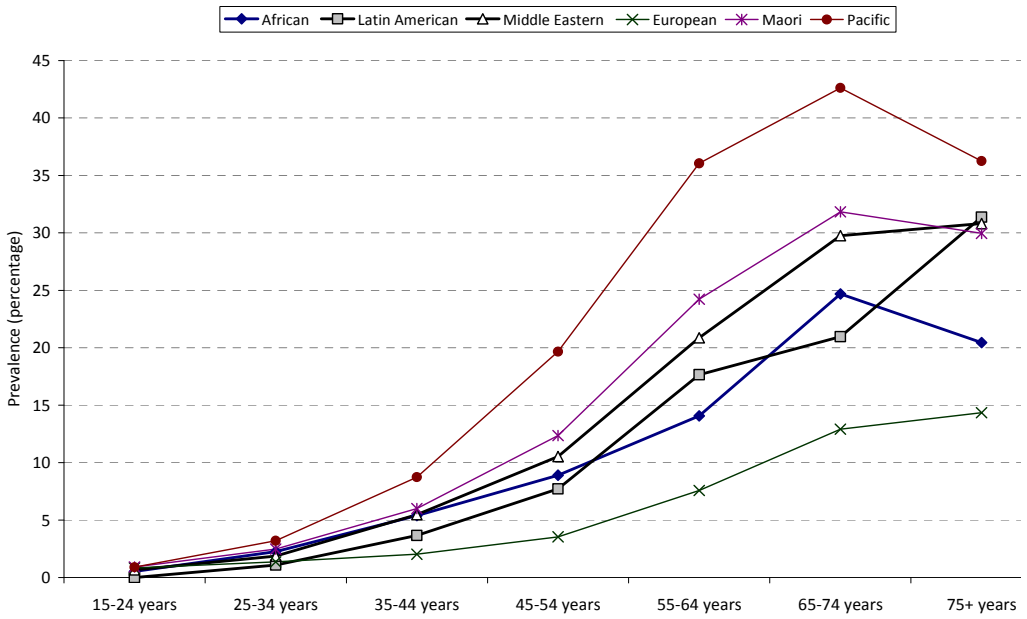
**Figure 76: Age standardised prevalence of diabetes, by ethnicity and deprivation quintiles, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

When looking at age specific prevalence of diabetes by ethnicity, all MELAA ethnicities had a markedly higher prevalence of diabetes than Europeans from age 35 years onwards (Figure 77).

**Figure 77: Age specific prevalence of diabetes, by ethnicity, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

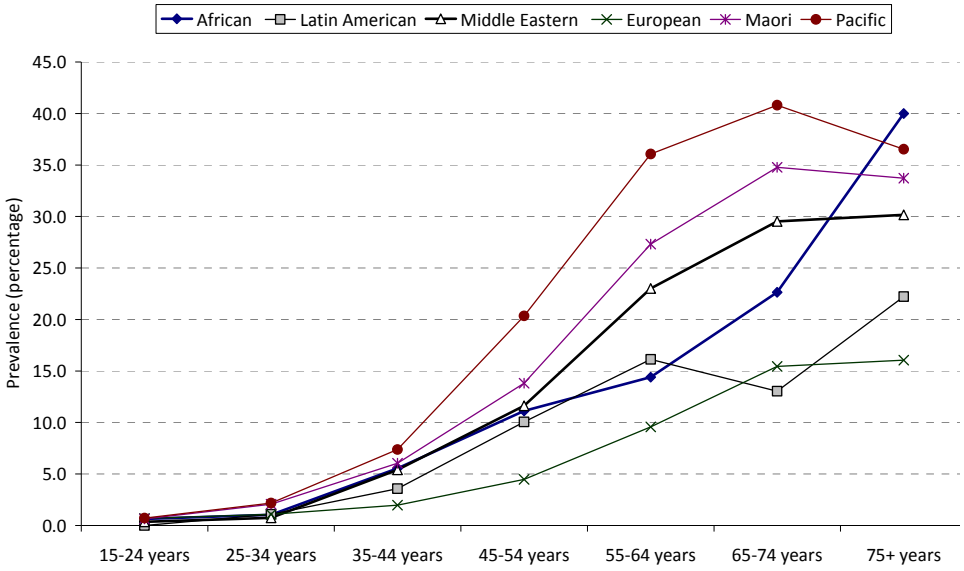
Analysing the age specific prevalence rates by gender within each ethnicity showed that:

- In African people, age specific prevalence of diabetes was similar in both gender groups until age 75 + years where males had a much higher prevalence than females.
- In Latin Americans, there was a trend for women aged 55 year upwards to have a higher prevalence of diabetes than the men.

- In Middle Eastern people, males and females appeared to have similar diabetes prevalence in all age groups.

When comparing men only by ethnicity (Figure 78), age specific prevalence rates were higher in Middle Eastern, African and Latin American men compared with Europeans from age 35 years upwards. In Latin American men there was a dip in prevalence of diabetes in the 65-74 year age band, but this is likely to be an outlier value as the general trend is for the prevalence of diabetes to increase with age.

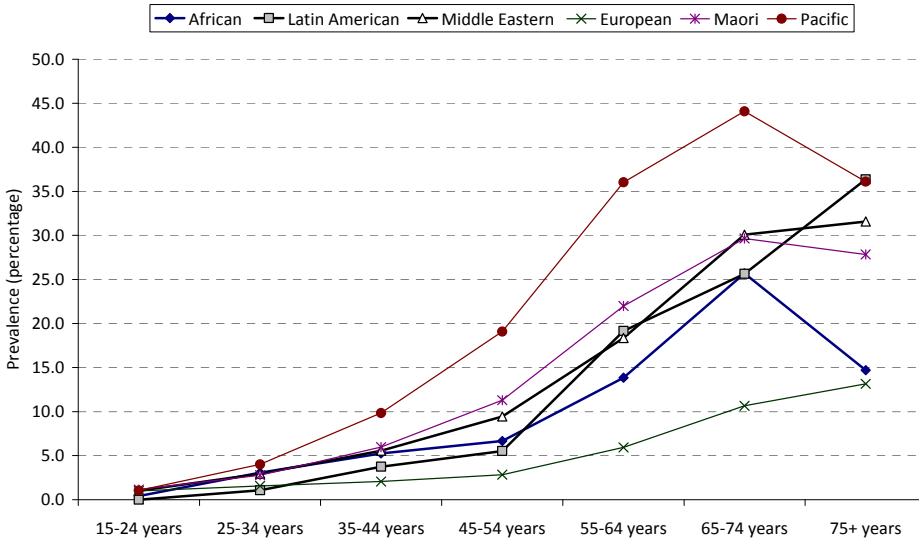
**Figure 78: Age specific prevalence of diabetes by ethnicity in males, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

In women, the prevalence of diabetes in all age groups in the MELAA ethnicities was higher than the European prevalence (Figure 79).

**Figure 79: Age specific prevalence of diabetes by ethnicity in females, Auckland region, 2007/08**




Source: New Zealand Health Tracker Project, HDIU, custom prioritised ethnicity

### 11.2.2 Diabetes hospitalisation rates

African men had a higher rate of hospitalisation from diabetes than Others and Maori men (Figure 80). Both Middle Eastern men and women had higher hospitalisations rates from diabetes than their counterparts in Others. The Latin American rates need to be interpreted with caution as the number of events was small (Table 37).

**Figure 80: Adult (15-74 years) age standardised PAH rate for diabetes, by gender and ethnicity, for the Auckland region, 2006-2009**

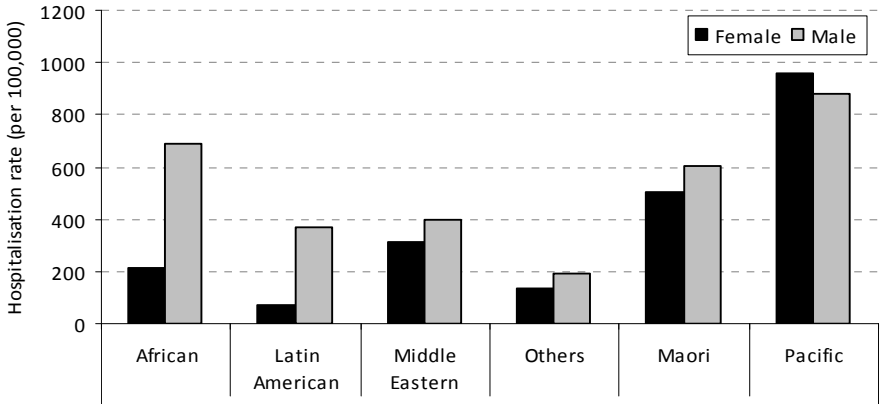



**Table 37: Age standardised rate (per 100,000) and total number of hospitalisations for diabetes by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **214** | 15 | **686** | 28 |
| Latin American | **74** | 1 | **370** | 9 |
| Middle Eastern | **314** | 34 | **395** | 45 |
| Others | **137** | 2149 | **190** | 2769 |
| Maori | **501** | 774 | **601** | 816 |
| Pacific | **957** | 1785 | **883** | 1450 |

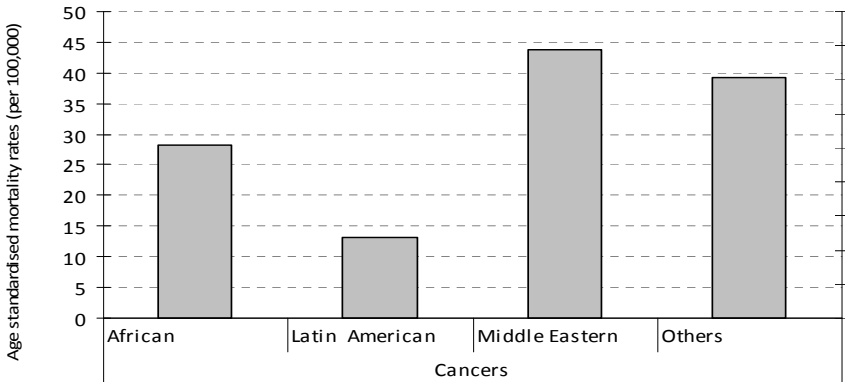
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator population for Maori and Pacific was sourced from Census data.

## *11.3 Cancer*

### 11.3.1 Cancer mortality rate

The national age standardised PAM rates in adults from cancer from all causes calculated for each MELAA group should be interpreted with caution as the number of deaths was small. Middle Eastern people appeared to have the highest SMR from cancer compared with all other ethnicities (Figure 81).

**Figure 81: Age standardised PAM rate from cancer (all causes) in adults (15-74 years), by ethnicity, New Zealand, 2004-2007**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| Mortality Rate | 28 | 13 | 44 | 39 |
| Total deaths | 2 | 2 | 11 | 4109 |

Source: National mortality data set, 2004-07, custom prioritised ethnicity
Note: Others= non MELAA, non-Maori, non-Pacific

### 11.3.2 Cancer registration

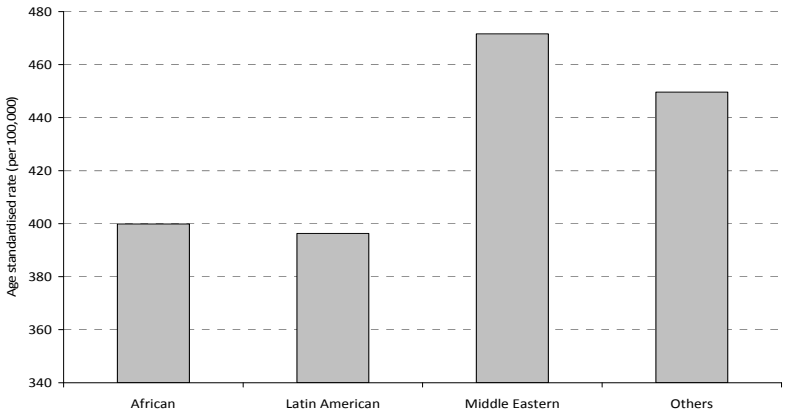
The total number of cancer registrations (for all types) by ethnicity is shown in Table 38. From 2005 to 2007, Latin Americans had the lowest number of cancer registrations.

**Table 38: Total number of cancer registrations (all types) by ethnicity, Auckland region, 2005-2007**

| Ethnicity | Total number of cancer registrations |
|---|---|
| African | 41 |
| Latin American | 11 |
| Middle Eastern | 91 |
| Others | 13,896 |

Source: New Zealand Cancer Registry, 2005 to 2007, custom prioritised ethnicity
Note: Others= non MELAA, non-Maori, non-Pacific

**Figure 82: Age standardised rate (per 100,000) of cancer registrations (all types) by ethnicity, Auckland region, 2005-2007**




Source: New Zealand Cancer Registry, 2005 to 2007, custom prioritised ethnicity
Note: Others= non MELAA, non-Maori, non-Pacific

Age standardised rates for cancer registrations recorded in the registry from 2005 to 2007 is shown in Figure 82. The rates have to be interpreted with caution as the total number of events was small in the MELAA groups compared to Others (especially for Latin Americans). Middle Eastern people appeared to have the highest rate of cancer registrations of all compared ethnicities. Africans and Latin Americans had lower rates of cancer registrations than Others.

### 11.3.3 Breast Cancer

Table 39 shows that from 2004 to 2007, MELAA women only had 7 registered deaths nationally from breast cancer.

**Table 39: Total number of deaths in women from breast cancer, by ethnicity, New Zealand, 2004-2007**

| Ethnicity | African | Latin American | Middle Eastern | Other |
|---|---|---|---|---|
| Total deaths | 0 | 1 | 6 | 2138 |

Source: National mortality data set, 2004-07
Note: Others= non MELAA, non-Maori, non-Pacific

Table 40 shows the total number of breast cancer registrations from 2005-2007 by ethnicity. Middle Eastern women had the highest total number of breast cancer registrations compared with the other MELAA ethnicities.

**Table 40: Number of women with registered breast cancer, by ethnicity, Auckland region, 2005-2007**

| Ethnicity | Latin American | African | Middle Eastern | Others |
|---|---|---|---|---|
| Total registrations | 2 | 8 | 18 | 1,895 |

Source: New Zealand Cancer Registry, 2005 to 2007
Note: Others= non MELAA, non-Maori, non-Pacific

### 11.3.4 Cervical cancer

There were no registered deaths in the MELAA population from cervical cancer from 2004-2007. Only two African women had cervical cancer registrations for the period 2005-2007 of the total MELAA population in Auckland (Table 41).

**Table 41: Total number of cervical cancer registrations in women, by ethnicity, Auckland, 2005-2007**

| Ethnicity | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| Total registrations | 2 | 0 | 0 | 134 |

Source: New Zealand Cancer Registry, 2005 to 2007
Note: Others= non MELAA, non-Maori, non-Pacific

### 11.3.5 Colorectal Cancer

Analysing the total number of people with registered colon cancers in the Auckland region from 2005-2007 showed that the MELAA population had a small number of registered colon cancers (Table 42).

**Table 42: Total number of registered colorectal cancers, by ethnicity, Auckland, 2005-2007**

| Gender | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| Total registrations | 4 | 1 | 8 | 1,989 |

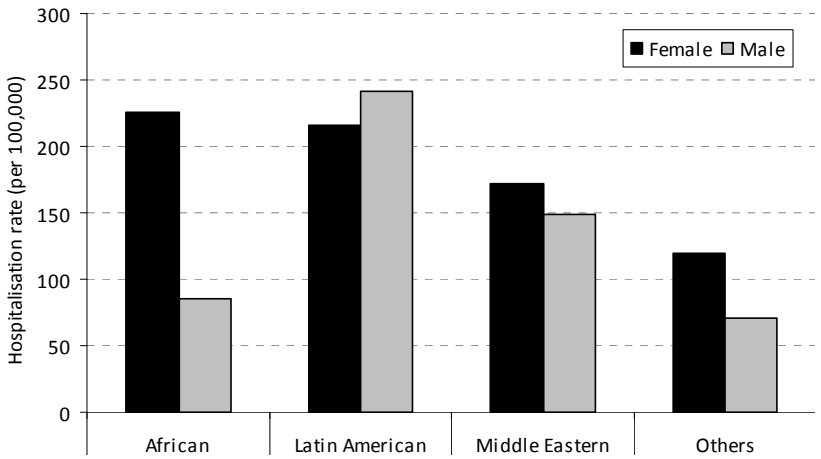
Source: New Zealand Cancer Registry, 2005 to 2007
Note: Others= non MELAA, non-Maori, non-Pacific

## *11.4 Respiratory Disease*

#### 11.4.1.1 Asthma

Females in the MELAA populations had higher PAH rates from asthma than Others (Figure 83). Middle Eastern and Latin American males had higher PAH rate from asthma compared with Others.

**Figure 83: Adult (15-74 years) age standardised PAH rates for asthma, by ethnicity and gender, Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

**Table 43: Adult (15-74 years) age standardised rate (per 100,000) and total number of hospitalisations for asthma by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **226** | 31 | **85** | 10 |
| Latin American | **216** | 7 | **241** | 7 |
| Middle Eastern | **172** | 32 | **149** | 34 |
| Others | **120** | 1877 | **70** | 967 |

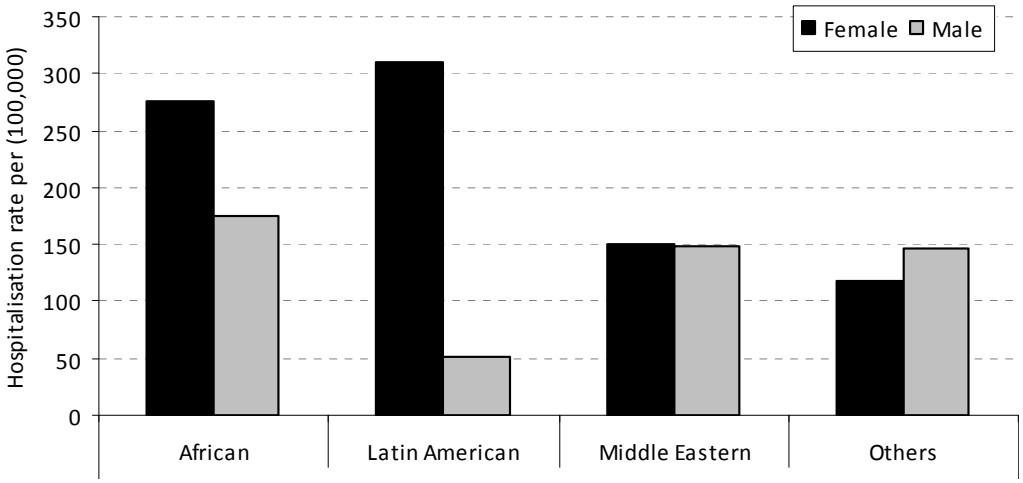
Source: NMDS 2006-2009, custom prioritised ethnicity

Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

#### 11.4.1.2 Pneumonia

The PAH rate in adults from pneumonia was higher in the African population compared with Others. Latin American females appeared to have the highest rate compared with all other groups, but only had 9 total events (Table 44), so rates have to be interpreted with caution.

**Figure 84: Adult (15-74 years) age standardised PAH rates for pneumonia, by ethnicity and gender, for the Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

**Table 44: Age standardised rate (per 100,000) and total number of hospitalisations for pneumonia by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **276** | 23 | **175** | 19 |
| Latin American | **310** | 9 | **52** | 1 |
| Middle Eastern | **150** | 23 | **147** | 23 |
| Others | **118** | 1851 | **147** | 2126 |

## *11.5 Infections*

#### 11.5.1.1 HIV/AIDS

Table 45 shows the number and percentage of people tested and diagnosed with HIV in the Northern region (which includes Auckland and Northland). This is not a capture of true prevalence of HIV positive people currently living in the Northern region as a number of these people may have died or moved from the area since diagnosis.

**Table 45: The number of HIV diagnosed by Western Blot antibody test and reported by viral load test (01/01/1996 to 31/12/2009) for the Northern region by ethnicity**

| Ethnic group | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| European | 458 | 54% | 29 | 14% | 487 | 46% |
| Maori | 77 | 9% | 7 | 3% | 84 | 8% |
| Pacific Island | 35 | 4% | 9 | 4% | 44 | 4% |
| **African** | **122** | **14%** | **118** | **56%** | **240** | **23%** |
| Asian | 118 | 14% | 45 | 21% | 163 | 15% |
| **Latin American** | **15** | **2%** | **1** | **0%** | **16** | **2%** |
| Other | 19 | 2% | 3 | 1% | 22 | 2% |
| Total | 844 | 100% | 212 | 100% | 1056 | 100% |

Source: AIDS Epidemiology Group, University of Otago Medical School.
Note: Standard ethnicity prioritisation. The African ethnicity category here includes Zimbabweans unless specifically stated as 'European Zimbabweans'. Middle Eastern people were placed in the 'Other' group, for confidentiality reasons as their numbers were very small.

Approximately 23% of all the people diagnosed as HIV positive in the Northern region from 1996-2009 were African. African and Asian men both equally had the second highest proportion of HIV positive men in the Northern region (after European). African women had the highest proportion of HIV positive women in diagnosed women in the Northern region. Latin Americans only contributed to 2% of the total number of HIV positive patients in the Northern region.

Table 46 shows the number of notified AIDS cases in the Northern region from 1996 to 2009 by ethnicity. African people contributed 14% to the total number of people from the Northern region diagnosed with AIDS from 1996 to 2009. African women had the highest proportion of women diagnosed with AIDS from the Northern region. African and Asian men both equally had the third largest proportion of men diagnosed with AIDS from the Northern region (after European and Maori).

**Table 46: The number of notified people with AIDS for the period 01/01/1996 to 31/12/2009, for the Northern region**

| Ethnic group | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | n | % | n | % | n | % |
| European | 140 | 55% | 9 | 17% | 149 | 49% |
| Maori | 32 | 13% | 4 | 8% | 36 | 12% |
| Pacific Island | 16 | 6% | 1 | 2% | 17 | 6% |
| **African** | **25** | **10%** | **19** | **37%** | **44** | **14%** |
| Asian | 26 | 10% | 17 | 33% | 43 | 14% |
| Other | 14 | 6% | 2 | 4% | 16 | 5% |
| **Total** | 253 | 100% | 52 | 100% | 305 | 100% |

Source: AIDS Epidemiology Group, University of Otago Medical School.
Note: Standard ethnicity prioritisation. The African ethnicity category here includes Zimbabweans unless specifically stated as 'European Zimbabweans'. Latin American and Middle Eastern people were placed in the 'Other' group, for confidentiality reasons.

As African people have a high burden of HIV and AIDS (especially women), it is important that this condition is adequately cared for. It is especially of importance in order to keep domestic transmission rates as low as possible. The African Health Promotion Programme, now under the umbrella of the New Zealand AIDS Foundation (African Communities team) works with African communities to ensure health education, prevention and awareness of HIV/AIDS is fostered amongst New Zealand's African communities.

**"Initially there was a lot of resistance to (HIV) testing. Husbands would abandon wives who were positive and refuse to be tested. There was lots of stigma around the diagnosis. This is because in**

**Africa, until quite recently, there were no retrovirals available and a diagnosis was equivalent to death."**

**"In teenagers from these ethnicities, sexual health is not talked about at home. Only gets some basic sexual health teaching as part of health in school education syllabus."**

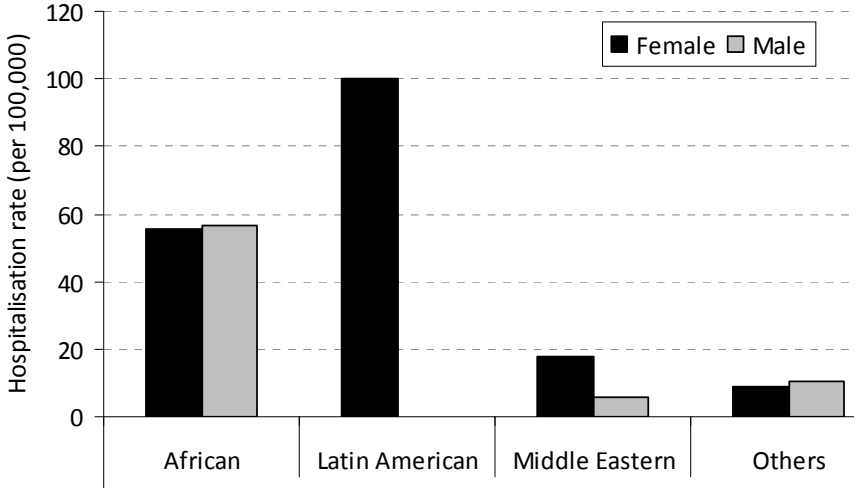
**"Muslim boys who are circumcised perceive that they will not be able to get any sexual 'disease' as they are protected by being circumcised."**

**"There is also a huge condom resistance by men."**

#### 11.5.1.2 Tuberculosis

The PAH rate from tuberculosis was highest in the African population (Figure 85, Table 47) compared with Middle Eastern people and Others. The Latin American population only had 5 events in total so the rate has to be interpreted with caution.

**Figure 85: Age standardised rate (per 100,000) for hospitalisations in adults (15-74 years) from tuberculosis by gender and ethnicity, for the Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

**Table 47: Age standardised rate (per 100,000) and total number of hospitalisations in adults (15-74 years) for tuberculosis by gender and ethnicity, for the Auckland region, 2006-2009**

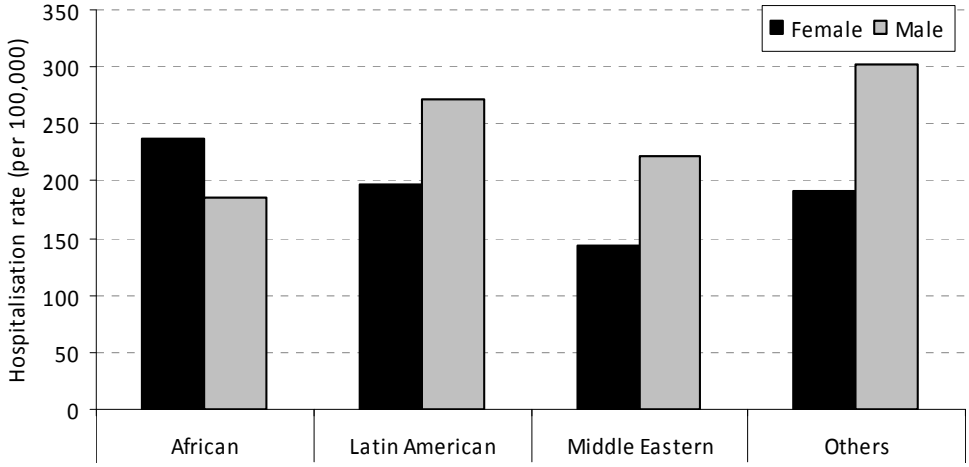
| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **56** | 10 | **57** | 9 |
| Latin American | **100** | 5 | **0** | 0 |
| Middle Eastern | **18** | 3 | **6** | 1 |
| Others | **9** | 141 | **10** | 142 |

#### 11.5.1.3 Cellulitis

Cellulitis was within the top 4 causes of avoidable hospitalisations in adults in all four ethnic groups compared (see Table 30, p66).

In adult females, Africans appeared to have the highest rate of PAH from cellulitis compared with all other ethnicities (Figure 86 and Table 48).

**Figure 86: Adult (15-74 years) age standardised PAH rate for cellulitis, by gender and ethnicity, Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

**Table 48: Age standardised rate (per 100,000) and total number of hospitalisations in adults (15-74 years) for cellulitis by gender and ethnicity, Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **238** | 30 | **185** | 23 |
| Middle Eastern | **197** | 5 | **271** | 9 |
| Latin American | **143** | 25 | **221** | 48 |
| Others | **191** | 3005 | **301** | 4260 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

#### 11.5.1.4 Kidney and Urine infections

Kidney and urine infections are in the top five causes of PAH for all ethnicities (see Table 30, p66).

Figure 87 shows that the PAH rates from kidney and urine infections was higher in females compared with males in all ethnicities. In males, Latin American and Middle Eastern males had higher rates than Others. Latin American females had the highest rate of PAH from kidney and urine infections. It is unclear why the MELAA population (especially Latin Americans) have much higher admission rates for kidney and urine infections than Others. It may be due to seeking medical advice later in the course of this disease thus needing inpatient therapy, as most kidney and urine infections can be successfully treated in primary care.

**Figure 87: Adult age standardised PAH rate for kidney or urine infections, by gender and ethnicity, for the Auckland region, 2006-2009**

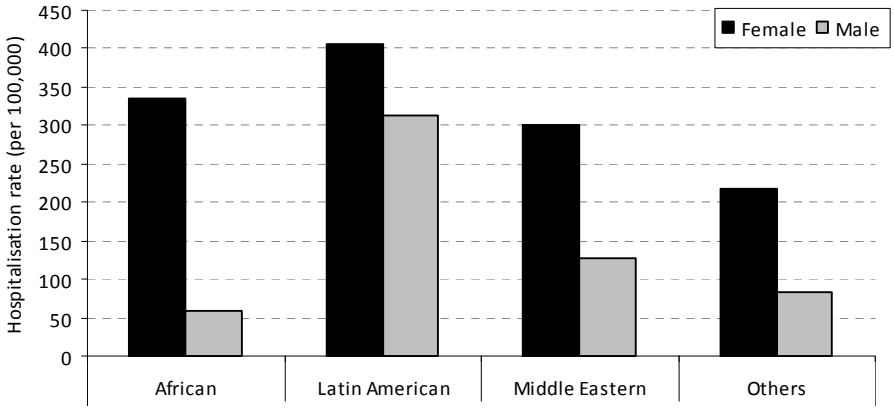


**Table 49: Age standardised rate (per 100,000) and total number of hospitalisations for kidney or urine infections by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Rate | Events | Rate | Events |
| African | **335** | 40 | **60** | 8 |
| Middle Eastern | **405** | 17 | **312** | 6 |
| Latin American | **301** | 54 | **127** | 17 |
| Others | **218** | 3384 | **83** | 1210 |

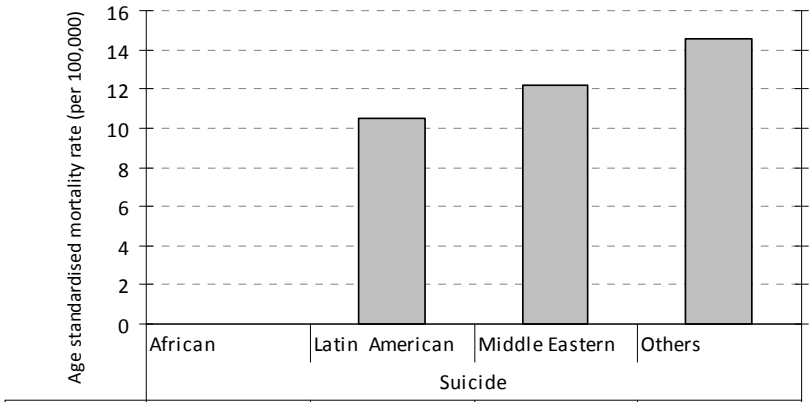
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

## *11.6 Mental Health Conditions*

### 11.6.1 Suicide

Analysing the mortality rates from suicide in adults showed that the MELAA populations had lower rates than Others, (Figure 88). The rates have to be interpreted with caution as the number of events for the MELAA groups was very small. Within the MELAA ethnicities, Middle Eastern people had the highest rate (SMR 12). There were no recorded deaths from suicide in the African population for the years 2004-2007.

**Figure 88: Age standardised potentially avoidable mortality rate (per 100,000) from suicide in adults (15-74 years), by ethnicity, New Zealand, 2004-2007**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| Mortality Rate | 0 | 11 | 12 | 15 |
| Total deaths | 0 | 3 | 7 | 1387 |

Source: National mortality data set, 2004-07, custom prioritised ethnicity
Note: Others= non MELAA, non-Maori, non-Pacific

## *11.7 Disability*

There is no data currently available on disability prevalence for the Middle Eastern, Latin American or African populations. Data from the New Zealand Household Disability Survey does not provide information for the MELAA ethnic groups as their information is aggregated under 'Other' with several other ethnicities. In chapter 13 of this report, results from interviews with heath service providers relating to the MELAA groups are summarised and some qualitative insight are provided on the effects of disability on these communities.

## *11.8 Summary- important conditions*

- Cardiovascular disease
  - Middle Eastern people may have a higher estimated prevalence of CVD than Europeans and Pacific people. African and Latin Americans may have a lower prevalence of CVD than Europeans.

  - The disparity in prevalence between Europeans and Middle Eastern people was most evident from ages 35 to 64 years.
  - In males, Africans appeared to have a marked rise in CVD prevalence from age 55 years onwards, becoming the ethnicity with the highest prevalence in the 75+ years age group, compared with all other ethnicities.
  - In women, Middle Eastern people appeared to have a similar trend in prevalence of CVD as that of Pacific people, which was higher than European women until 74 years of age.
  - Middle Eastern people appeared to have higher rates of hospitalisations from angina and chest pain than Others, Maori and Pacific.
- Diabetes
  - All three MELAA ethnicities had approximately double the prevalence of diabetes compared with Europeans in Auckland with Middle Eastern people having the highest prevalence.
  - All MELAA ethnicities had a higher prevalence of diabetes than Europeans in each quintile of deprivation.
  - All MELAA ethnicities had a markedly higher prevalence of diabetes than Europeans from age 35 years onward.
  - In men, African people had a higher rate of hospitalisation from diabetes than Others and Maori. Both Middle Eastern men and women had higher rates of hospitalisations from diabetes than their counterparts in Others.
- Cancer
  - The mortality rate and cancer registration rate in adults from cancer from all causes appeared highest in Middle Eastern people compared with all other ethnicities.
- Respiratory diseases
  - The PAH rate from asthma was higher for the females in the MELAA groups compared with female Others.
  - The PAH rate in adults from pneumonia was higher in the African population compared with Others.
- Infectious diseases
  - 23% of all the people diagnosed as HIV positive in the Northern region from 1996-2009 were African. African people contributed 14% to the total number of people from the Northern region diagnosed with AIDS.
  - The PAH rate from tuberculosis was highest in the African population.
  - In adult females, Africans appeared to have the highest rates of PAH from cellulitis compared with all other ethnicities.
  - PAH rates from kidney and urine infections was higher in females from all three MELAA groups compared with female Others with Latin American females having the highest rate.
- Mental health conditions
  - The MELAA populations had lower mortality rates from suicide than Others.

# 12 Child Health

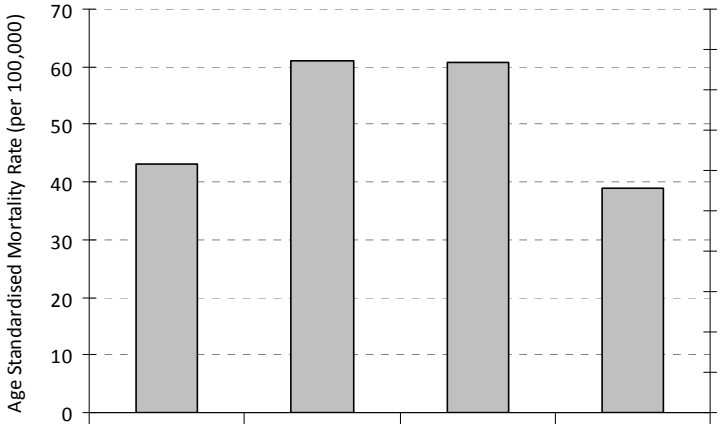
The health status of children in different communities is important to capture and understand as it has long term consequences on the child and the wider family. This chapter provides details on the following for Middle Eastern, Latin American and African children:

- Child mortality
- Low birth weight
- Child potentially avoidable hospitalisations (PAH) and top causes
- Important conditions based on main causes of PAH
- Immunisation status
- Breastfeeding data
- Oral health status

## *12.1 Child mortality (0-14 years) - all cause*

The age standardised mortality rates for children from all causes, by ethnicity, for New Zealand, are presented below (Figure 89). The data is not broken down by gender or for the Auckland region due to the small number of events. Results should be interpreted with caution as one extra death in the any of the MELAA population can influence the rate significantly, which may be a variation due to chance alone. The data suggests that in New Zealand, Middle Eastern, Latin American and African children may have higher age standardised mortality rates compared with Others. No further conclusions should be made from these figures.

**Figure 89: Age standardised mortality rates (SMR) per 100,000 for children (0-14 year olds), from all causes, by ethnicity, in New Zealand, 2004-2007.**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| SMR | 43 | 61 | 61 | 39 |
| Total events | 7 | 4 | 11 | 888 |

Source: Mortality Dataset 2004-2007, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori and non-Pacific. Denominator used is custom prioritised ethnicity from Census 2006.

## *12.2 Low birth weight*

Low birth weight (LBW) is defined as a birth weight less than 2500 grams. This usually occurs when the baby is premature or has intrauterine growth retardation.

The data indicates that there were no differences in the percentages of LBW babies between African, Middle Eastern and Others (approximately 6% in each group). Latin American babies appeared to have a lower proportion of LBW babies (3%) than the other groups compared.

**Table 50: Percentage of LBW babies, by ethnicity, Auckland region, 2006-2009**

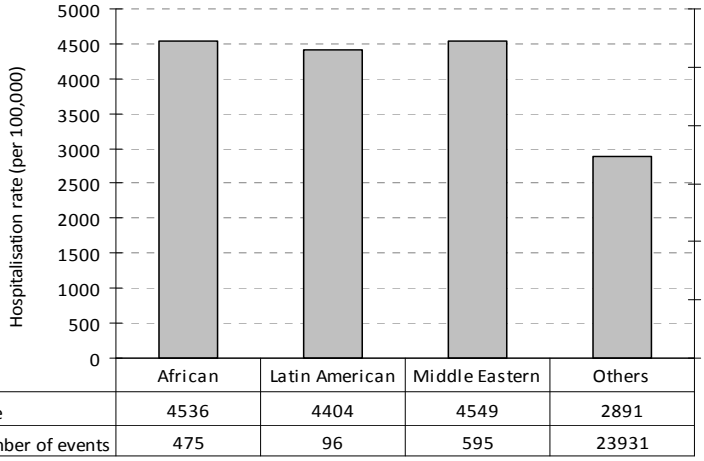
| Ethnicity | Number of babies with LBW (<2500g) | Total births | % LBW |
|---|---|---|---|
| African | 42 | 680 | 6.2% |
| Latin American | 9 | 303 | 3.0% |
| Middle Eastern | 59 | 1,037 | 5.7% |
| Others | 3245 | 53,207 | 6.1% |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

## *12.3 Child potentially avoidable hospitalisations*

The overall rate for potentially avoidable hospitalisations in children (from all causes) appeared to be higher in African, Latin American and Middle Eastern children compared with Others (Figure 90) with Middle Eastern children having the highest rate.

**Figure 90: Child (0-14 years) potentially avoidable age standardised hospitalisation rates per 100,000, Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

## *12.4 Child potentially avoidable hospitalisation- top 5 causes*

The top 5 causes of potentially avoidable hospitalisations in children in the Auckland region by ethnicity are shown below (Table 51). Almost all conditions (such as asthma, gastroenteritis, dental conditions and pneumonia) are repeated in each ethnic group, although the individual ranking may differ. These conditions are discussed later in this chapter.

**Table 51: Age standardised hospitalisation rate (per 100,000) and total number of events (n) in the Auckland region for the top five causes of Potentially Avoidable Hospitalisations, by ethnicity, in children (0-14 years),2006-2009**

| Rank | African | | | Latin American | | | Middle Eastern | | | Others | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cause | Rate | n | Cause | Rate | n | Cause | Rate | n | Cause | Rate | n |
| **1** | Asthma | 708 | 71 | Gastro-enteritis | 844 | 18 | Dental conditions | 1045 | 123 | ENT infections | 602 | 1940 |
| **2** | Dental conditions | 655 | 67 | ENT infections | 720 | 15 | Gastro-enteritis | 730 | 88 | Dental conditions | 439 | 1564 |
| **3** | Gastro-enteritis | 568 | 55 | Resp. infections - Other | 555 | 12 | ENT infections | 647 | 77 | Gastro-enteritis | 372 | 920 |
| **4** | Pneumonia | 554 | 54 | Pneumonia | 500 | 11 | Asthma | 582 | 69 | Asthma | 359 | 1962 |
| **5** | Acute bronchiolitis | 532 | 50 | Asthma | 498 | 10 | Acute bronchiolitis | 344 | 42 | Pneumonia | 233 | 1189 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

## *12.5 Child- Important conditions*

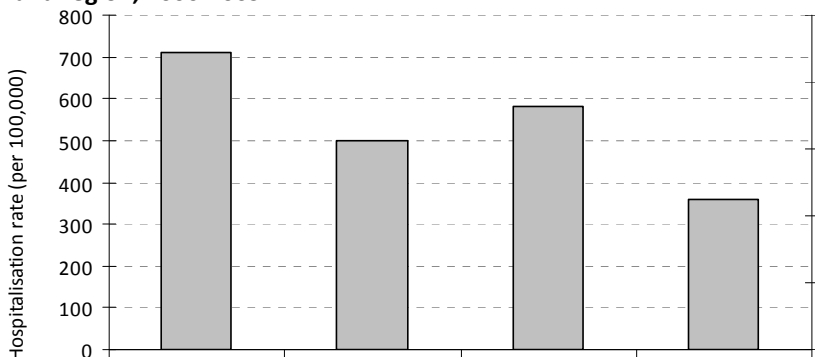
### 12.5.1 Asthma

Asthma is the most common chronic disease in children and can create a substantial burden to individuals and their families.(59)

All three MELAA groups had higher asthma hospitalisation rates than Others with African children having the highest rate (Figure 91). Asthma was also the top cause of potentially avoidable hospitalisations in African children.

This suggests that African children especially may have poorly managed asthma. This may be a result of inadequate primary health access, poor asthma management or exposure to hostile living environments (e.g. cigarette smoke, mould, damp houses or dust mites).

**Figure 91: Age standardised hospitalisation rates (ASR) and events for asthma in children (0-14 years), by ethnicity, Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| ASR | 708 | 498 | 582 | 359 |
| Number of events | 71 | 10 | 69 | 1962 |

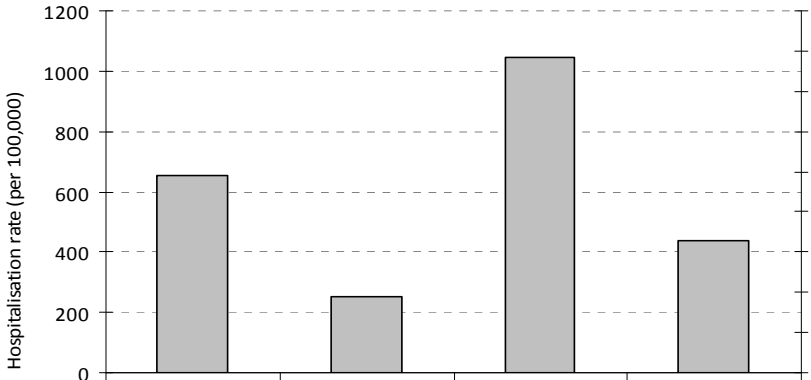
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

### 12.5.2 Dental conditions

Hospitalisations from dental conditions were the top cause of PAH in Middle Eastern children. Both Middle Eastern and African children had higher hospitalisation rates from dental conditions compared with Others (Figure 92). Middle Eastern children had a rate more than twice the rate in Others.

This suggests that for Middle Eastern children especially, oral health maintenance and disease prevention is inadequately provided for in the community. Further data on oral health is provided in section 12.8 of this chapter.

**Figure 92: Age standardised hospitalisation rates (ASR) and events for dental conditions in children (0-14 years), by ethnicity, Auckland region, 2006-2009**



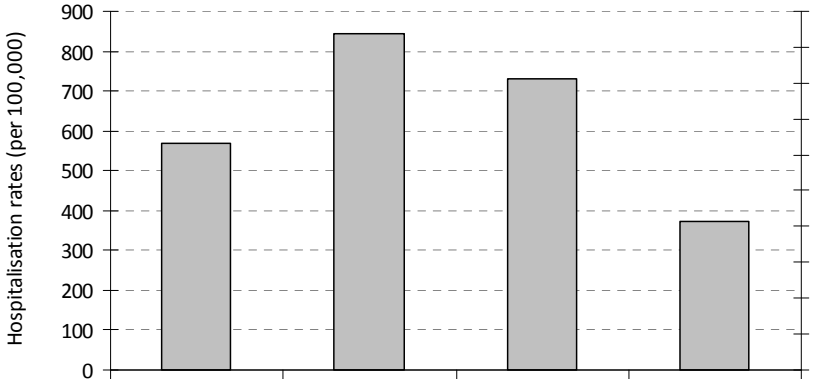

| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| ASR | 655 | 254 | 1045 | 439 |
| Number of events | 67 | 5 | 123 | 1564 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

### 12.5.3 Gastroenteritis

Gastroenteritis was the top cause for PAH in Latin American children. They had the highest rate of hospitalisations from this condition compared with other ethnicities (Figure 93). All three MELAA ethnicities had higher hospitalisation rates from gastroenteritis than Others.

**Figure 93: Age standardised hospitalisation rates (ASR) and events for gastroenteritis in children (0-14 years), by ethnicity, Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| ASR | 568 | 844 | 730 | 372 |
| Number of events | 55 | 18 | 88 | 920 |

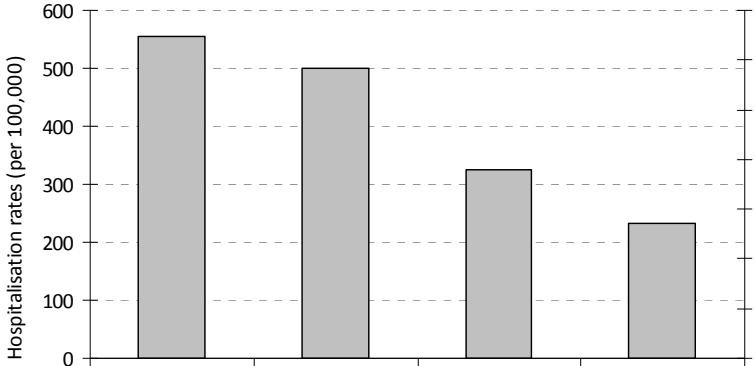
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

### 12.5.4 Pneumonia

Rates of hospitalisations from pneumonia are higher in all there MELAA ethnicities compared with Others but is highest in the African group (Figure 94). African children had a rate more than twice the rate in Others.

It is unclear if the hospitalisation rates are higher in African children due to a delay in seeking medical care or whether accessing and engaging with primary health providers may be a barrier.

**Figure 94: Age standardised hospitalisation rates (ASR) and events for pneumonia in children (0-14 years), by ethnicity, Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Respiratory infections - Pneumonia | | | |
| ASR | 554 | 500 | 325 | 233 |
| Number of events | 54 | 11 | 39 | 1189 |

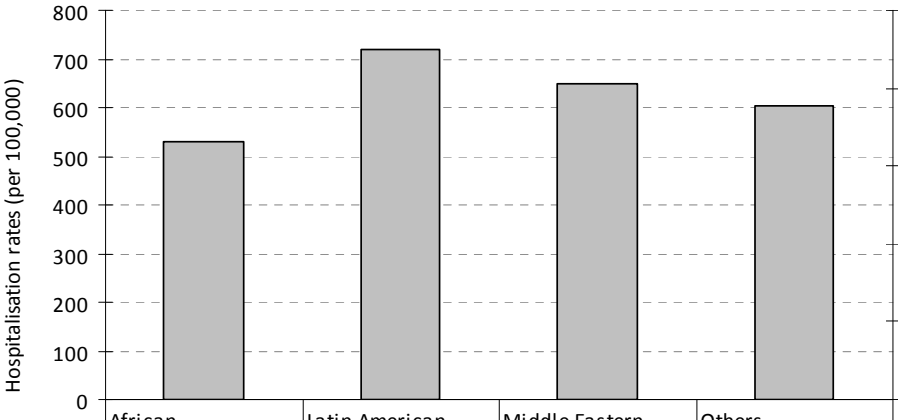
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

### 12.5.5 Ear, nose, throat (ENT) infections

The rate of hospitalisations due to ENT infections in MELAA children appeared to be similar to the rate in Others (Figure 95), except that Latin American children had a higher rate.

Early case detection and initiation of treatment would be beneficial for all ethnicities in avoiding hospitalisation.

**Figure 95: Age standardised hospitalisation rates (ASR) and number of hospitalisation for ENT infections in children (0-14 years), by ethnicity, Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | ENT infections | | | |
| ASR | 528 | 720 | 647 | 602 |
| Number of events | 52 | 15 | 77 | 1940 |

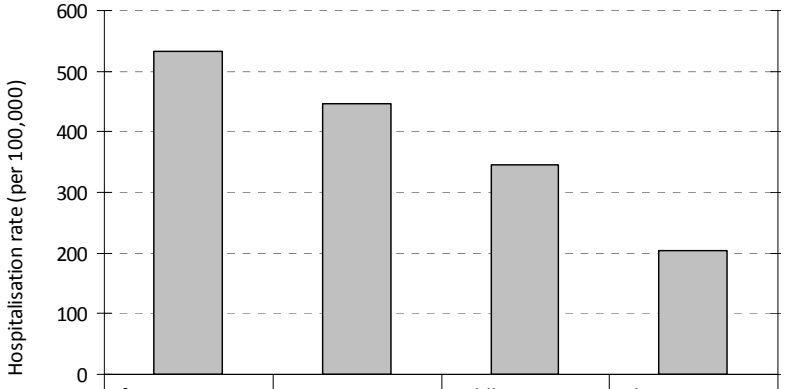
Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

### 12.5.6 Acute bronchiolitis

Acute bronchiolitis is a viral infection of the small airways in the lungs, most commonly caused by the respiratory syncytial virus. It is a common infection in childhood which peaks from winter to late spring. The risk factors for acute bronchiolitis include day-care attendance, living in crowded conditions and exposure to cigarette smoke.

The PAH rates from acute bronchiolitis appeared higher in all three MELAA ethnicities compared with Others (Figure 96). African children had the highest rate of hospitalisations per compared with all other ethnicities. This may be a reflection of poor access and engagement with primary health care services or poor environmental conditions.

**Figure 96: Age standardised hospitalisation rates (ASR) and number of hospitalisation for acute bronchiolitis in children (0-14 years), by ethnicity, Auckland region, 2006-2009**




| | African | Latin American | Middle Eastern | Others |
|---|---|---|---|---|
| | Respiratory infections - Acute bronchiolitis | | | |
| ASR | 532 | 446 | 344 | 204 |
| Number of events | 50 | 10 | 42 | 2664 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

## *12.6 Immunisation coverage*

Immunisation data in New Zealand is kept and reported by the National Immunisation Register (NIR). The NIR data-mart records all ethnicities into five groups 'Maori, Pacific, Asian, NZ European and Other'. Middle Eastern, Latin American and African data is recorded under the 'Other' ethnicity category which also includes several other large ethnicity groups such as 'Other European', 'European NFD' and 'Not specified'. Hence the MELAA immunisation rate/coverage is unable to be reported on currently.

Qualitative interviews with health service providers indicate that for the MELAA population, there does not appear to be expressed concerns with regards to parents wanting children to be immunised and children receiving their immunisations ( see Chapter 13: Health Service Provider interviews).

## *12.7 Breastfeeding*

The World Health Organization has concluded that breastfeeding plays a central role in protecting the health and promoting physical, neurological and emotional development in the short and long term for the child.(60) The Ministry of Health recommends exclusive breastfeeding until babies are around six months of age.(61) Exclusive breastfeeding means that only breast milk and prescribed medicines have been given from birth. Fully breastfed is when the infant has taken breast milk only, and no other liquids or solids except a minimal amount of water or prescribed medicines, in the past 48 hours.(61) Plunket provides the only source of national data on breastfeeding post discharge from maternity facilities. Plunket nurses however, do not see every baby in New Zealand and the data shown below should not be overly generalised, especially as the sample sizes for African, Middle Eastern and Latin American babies in the Auckland region are small (which has an impact on the percentages).

The 2007/2008 Health Targets recommended a 74% target for exclusive or full breastfeeding at 6 weeks, 57% at 3 months and 27% at 6 months.(62) At the 6 week mark, all MELAA groups and Others fall short of achieving the target of 74%, with Middle Eastern babies having the lowest percentage (Figure 97). At the 3 month mark, the target was achieved by all ethnicities except Middle Eastern babies. At the 6 month mark, Latin American and Other babies achieved the target but only 20% of Middle Eastern and 23% of African babies were exclusively or fully breastfed.

**Figure 97: Percentage of Plunket babies who were exclusively/fully breastfed by age clients seen in the Auckland region, combined years 2006-2009**

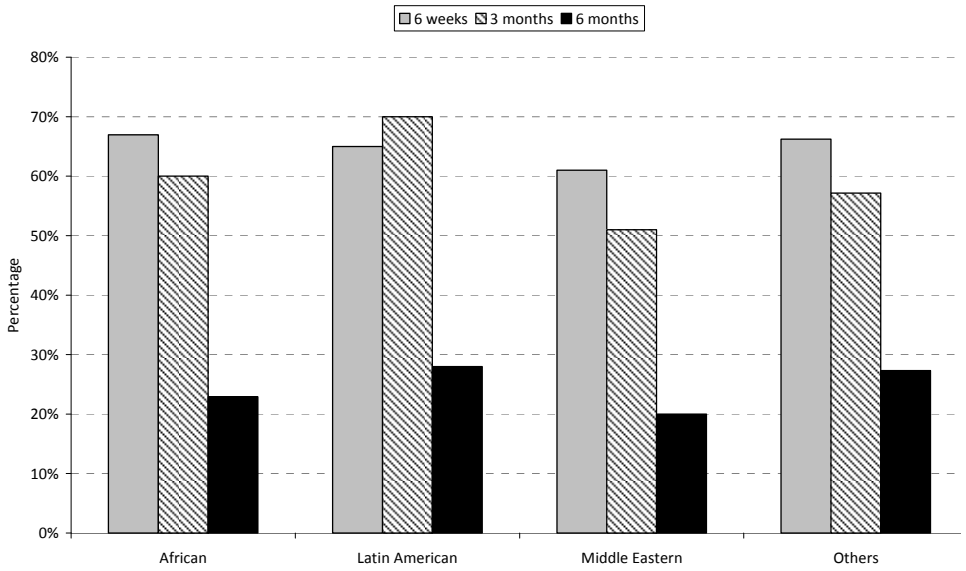



**Table 52: Number and percentage of Plunket babies who were exclusively or fully breastfed by age clients seen and ethnicity, Auckland region, 2006-09**

| Ethnicity | 6 weeks | | 3 months | | 6 months | |
|---|---|---|---|---|---|---|
| | number | % | number | % | number | % |
| African | 148 | 67% | 184 | 60% | 66 | 23% |
| Middle Eastern | 275 | 61% | 299 | 51% | 118 | 20% |
| Latin American | 52 | 65% | 69 | 70% | 30 | 28% |
| Others | 17052 | 66% | 20930 | 57% | 10173 | 27% |

Source: Plunket New Zealand breastfeeding dataset
Data: Ethnicity is not prioritised and is based on first ethnicity provided by the mother. Data should be interpreted with caution due to the small sample size in the MELAA population.

The data suggests that Middle Eastern and African mothers may benefit from being provided greater information and education on the benefits of exclusive/fully breastfeeding up to 6 months of age.

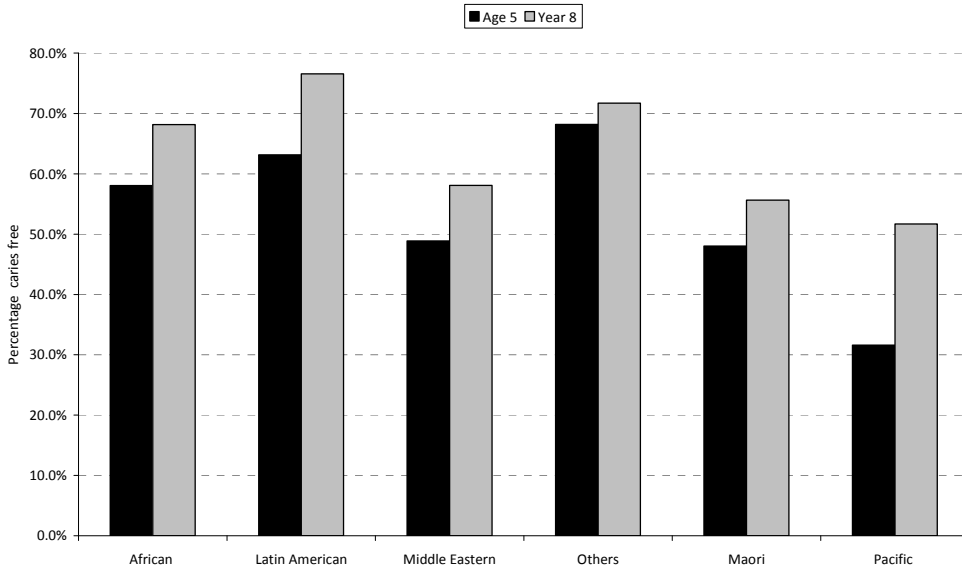
## *12.8 Oral health*

Improving oral health is one of the 13 population health objectives for the Ministry of Health and District Health Boards (DHBs) in the New Zealand Health Strategy. Significant differences in oral health status are associated with ethnicity, region and access to water fluoridation.(63) Reducing inequalities in oral health outcomes and access to oral health services is one of the seven key action areas identified in 'Good Oral Health for All, for Life'.(64)

The Auckland Regional Dental Service (ARDS) provides free dental care for children aged 0 years to Year 8 (Form 2) or until their 18th birthday. Data from ARDS, containing statistics on the mean number of DMFT (decayed, missing and filled teeth) and percentage of caries free children in 5 year olds and year 8 students are summarised below by ethnicity (Figure 98 and Figure 99).

All three MELAA ethnicities at age 5 had a lower percentage of caries free children compared with Others, especially Middle Eastern children (Figure 98). Year 8 MELAA children also had a lower percentage of caries free children except in Latin American children compared with Others. The trends seen in Middle Eastern children were similar to Maori children of the same age.

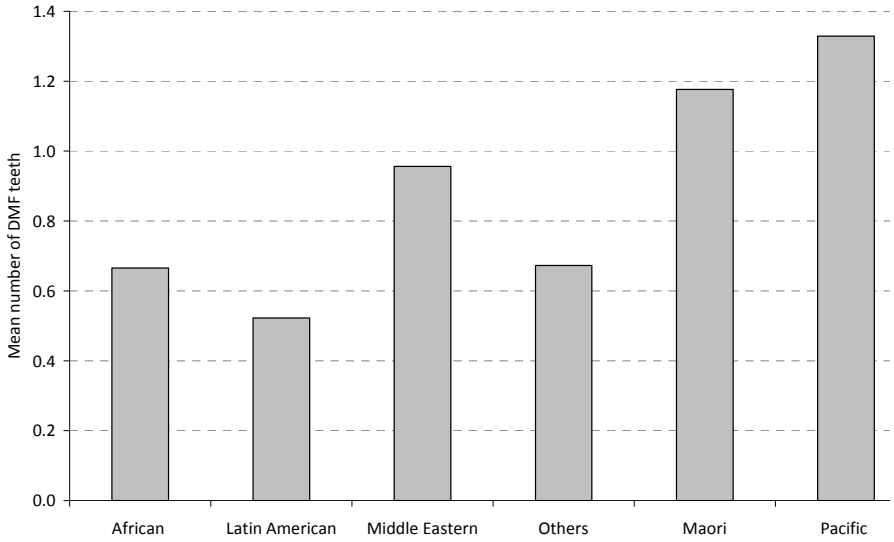
**Figure 98: Percentage of caries free children in Year 8 and Age 5 groups in the Auckland region, by ethnicity, Jan 2007-March 2010.**




Source: Auckland Regional Dental Service, Waitemata DHB
Note: Ethnicity has been prioritised according to custom prioritisation

The mean number of DMFT was higher in Middle Eastern Year 8 children than Others (1 DMFT compared with 0.7 DMFT in Others, Figure 99).

**Figure 99: Mean decayed, missing or filled teeth in Year 8 children, Auckland region, by ethnicity, Jan 2007 to March 2010**




Source: Auckland Regional Dental Service, Waitemata DHB
Note: Ethnicity has been prioritised according to custom prioritisation

The data suggests that Middle Eastern children have a greater unmet need to access and engage with oral health services as they had a lower percentage of caries free children (age 5 and Year 8) and had a higher mean number of DMFT compared with Others. These findings complement the findings of Middle Eastern children having the highest rate of hospitalisations from dental conditions as illustrated in Part 12.5.2 of this chapter.

## *12.9 Summary of child health*

- Child mortality

  - Middle Eastern, Latin American and African children may have higher age standardised mortality rates compared with Others
- Child potentially avoidable hospitalisations(PAH) and top causes
  - The PAH rate from all causes in children was higher in African, Latin American and Middle Eastern children compared with Others. Middle Eastern children had the highest rate.
  - For African children, asthma was the main cause of PAH, followed by dental conditions.
  - For Latin American children, gastroenteritis was the main cause of PAH, followed by ENT conditions.
  - For Middle Eastern children, dental conditions followed by gastroenteritis were the main causes of PAH.
- Important conditions based on main causes of PAH
  - Asthma: All MELAA groups had higher asthma hospitalisation rates than Others. African children had the highest rate.
  - Dental conditions: Both Middle Eastern and African children had higher hospitalisation rates compared with Others. Middle Eastern children had a rate more than twice the rate in Others.
  - Gastroenteritis: The MELAA ethnicities had higher hospitalisation rates from gastroenteritis than Others.
  - Pneumonia: The rate of hospitalisations from pneumonia was higher in all three MELAA ethnicities compared with Others but was highest in Africans.
  - Acute bronchiolitis: The rates of hospitalisation from acute bronchiolitis were higher in all three MELAA ethnicities compared with Others. African children had the highest rate.
- Breastfeeding data
  - At the 6 week mark, all MELAA groups and Others fall short of achieving the 2007/08 Health Target of 74% of babies being exclusively/fully breastfed. Middle Eastern people had the lowest percentage.
  - At the 3 month mark, the health target (57%) was achieved by all ethnicities except Middle Eastern babies.
  - At the 6 month mark, Latin American and Other babies achieved the health target (27%) but only 20% of Middle Eastern and 23% of African babies were exclusively or fully breastfed.
- Oral health status
  - All three MELAA ethnicities at age 5 had more children with caries than Others, especially Middle Eastern children. More Middle Eastern and African children than Others in Year 8 had caries.
  - Middle Eastern Year 8 children had a higher mean number of decayed, missing and filled teeth compared with Others.

# 13 Women's and maternal health

Women have distinct health needs and it is important to identify any areas of concern in the MELAA populations. This section reports on the following:

- Total fertility rate
- Number and rate of deliveries and average age of mother
- Percentage and rate of teenage deliveries
- Number of deliveries needing assistance and caesarean sections
- Number of complications of pregnancies: pre-eclampsia, diabetes and ectopic pregnancies
- Sexual health data: termination of pregnancies and sexually transmitted infections
- Female genital mutilation (FGM) survey results

## *13.1 Total fertility rate*

The total fertility rate (TFR) is the average number of live births that a woman would have during her life if she experienced the age-specific fertility rates of a given period (usually a year).(65) For this HNA, the TFR could only be calculated by total ethnicity response at level 1 ethnicity classification nationally due to the small population numbers at level 2 ethnicity classification.

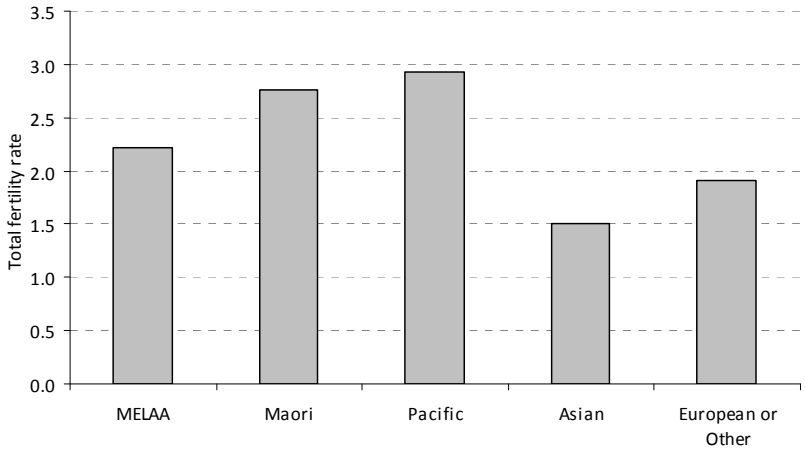
For the MELAA ethnicity, the average number of children that would be born to a woman during her reproductive lifetime (15-44 years) was two children (Table 53). The TFR for MELAA nationally was slightly higher than the European/Other and Asian groups but lower than Maori and Pacific (Figure 100).

**Table 53: Age specific fertility rates by age group and ethnicity, in New Zealand, 2006[1]**

| Age (years) | Age specific fertility rates (per 1,000) | | | | |
|---|---|---|---|---|---|
| | MELAA | Maori | Pacific | Asian | European/ Other |
| 15–19 | 16.6 | 71.0 | 42.6 | 6.9 | 22.5 |
| 20–24 | 68.0 | 150.1 | 137.8 | 32.2 | 60.3 |
| 25–29 | 113.4 | 143.3 | 159.7 | 87.3 | 100.0 |
| 30–34 | 131.9 | 111.2 | 134.6 | 107.4 | 122.5 |
| 35–39 | 90.6 | 60.3 | 86.3 | 57.2 | 65.3 |
| 40–44 | 23.8 | 15.0 | 24.3 | 11.4 | 11.6 |
| **Total Fertility Rate [2]** | **2.2** | **2.8** | **2.9** | **1.5** | **1.9** |

Source: Statistics NZ.
Notes:
(1)The age specific fertility rates are calculated based on the average number of live births registered during the three-year period 2005–2007 per 1,000 female estimated resident populations in each age group at 30 June 2006.
(2)The TFR is the average number of children that would be born to women aged 15-44 years, if she conforms to the fertility rate of 2006.

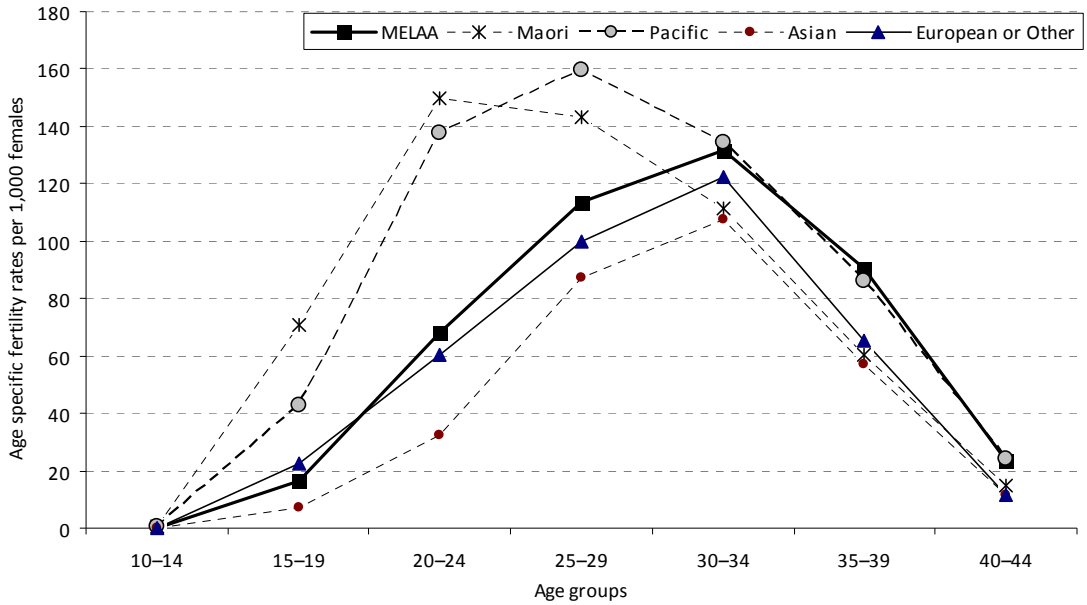
**Figure 100: Total fertility rates for women in New Zealand aged 15-44 years, by ethnicity, 2006**




Source: Statistics NZ, ethnicity is according to total response.

Figure 101 presents the data for age specific fertility rates by ethnicity. The fertility rate in MELAA women was highest in the 30-34 year old age group (similar to European/Other). They had higher fertility rates than European/Other in each age group. The data also shows that MELAA women aged 30 to 44 years had more children than their equivalent European/Other, Asian or Maori (similar to Pacific).

**Figure 101: Age specific fertility rates (per 1,000) by age group and ethnicity, New Zealand, 2006**




Source: Statistics NZ, ethnicity is according to total response.

## *13.2 Deliveries (live births)*

Births data can be sourced from the National Minimum Data Set (NMDS) and the Births, Deaths, Marriages (BDM) records. When using the NMDS dataset, the data is published according to the year of birth (not registration). Live births data (from public hospitals only) from the NMDS is presented below.

### 13.2.1 Number of deliveries and average age of women giving birth in the Auckland region

Within the MELAA group, Middle Eastern women had the highest number of live births in hospital followed by African and Latin American women (Table 54). The average age of mothers at delivery did not appear to have much difference between ethnicities, with the figure ranging from 29 to 32 years.

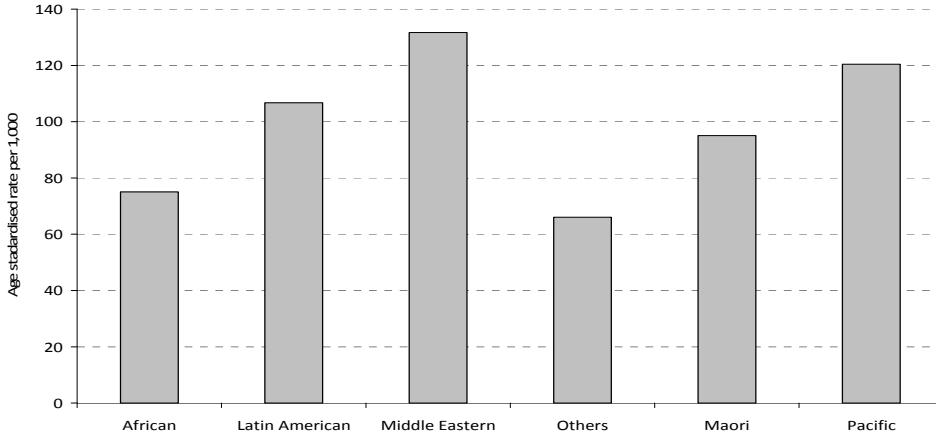
**Table 54: Number of live births and average age of mother for adults (15+ years) at delivery in the Auckland region, by ethnicity, 2006-2009**

| Ethnicity | Number of deliveries | Average age of mother |
|---|---|---|
| African | 698 | 30 |
| Latin American | 329 | 32 |
| Middle Eastern | 1,027 | 29 |
| Others | 52,597 | 31 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

Figure 102 shows the calculated age standardised rate of live birth deliveries in women aged 15 to 39 years in public hospitals in Auckland. In the MELAA group, Middle Eastern women had the highest rate of delivery, followed by Latin American women. Middle Eastern women appeared to have the highest live births delivery rate of all compared ethnicities (including Maori and Pacific). Although this data excludes out of hospital live births, it still shows the trends in live deliveries between ethnicities and a majority of births in New Zealand occur in hospitals (in 2004, in-hospital live births accounted for 94% of the live born babies registered with BDM(66)).

**Figure 102: The age standardised rate of live birth deliveries in women aged 15 to 39 years by ethnicity, in public hospitals in the Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people. The denominator population for Maori and Pacific was sourced from Census data, estimated resident population.

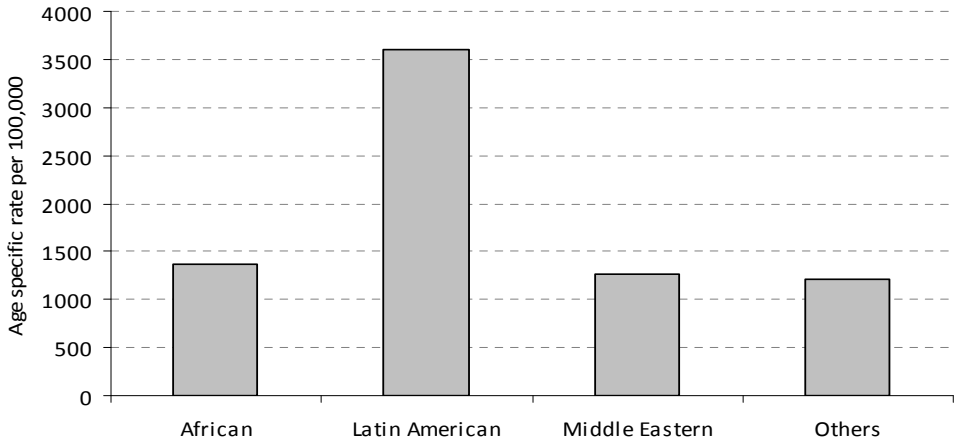
### 13.2.2 Teenage deliveries

Teenage deliveries (in women aged 15-19 years) can be viewed as a proxy indicator to assess the effectiveness of sexual education and family planning advice received by youth. Table 55 shows that Middle Eastern, African and Latin American women had a similar percentage of teenage deliveries compared with Others (3%). Latin American women appeared to have a higher rate of teenage deliveries than Others (3,600 compared with 1,218 per 100,000) and the highest within MELAA (Figure 103). This estimated rate is unstable as the total number of Latin American female teenagers in Auckland was small (approximately 60 to 65 women in each year 2006-2009) and should be interpreted with caution.

**Table 55: Number, percentage and age-specific rate of teenage (women aged 15-19 years) deliveries, Auckland region, 2006-2009**

| Ethnicity | Number of teenage deliveries | Total number of deliveries | Percentage of teenage deliveries | Age specific rate (per 100,000) |
|---|---|---|---|---|
| African | 24 | 698 | 3.4 % | 1,361 |
| Latin American | 9 | 329 | 2.7 % | 3,600 |
| Middle Eastern | 27 | 1,027 | 2.6 % | 1,265 |
| Others | 1,555 | 52,597 | 3.0 % | 1,218 |

**Figure 103: Age specific rate of teenage (aged 15-19 years) deliveries by ethnicity, Auckland region, 2006-2009**




Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

### 13.2.3 Preferred LMC

It is not currently possible to estimate the preferred choice of Lead Maternity Carer (LMC) for the MELAA group as data from the Maternity and Newborn collection was not accessible at time of analysis. See part 13.6.3 to see the choice of LMC used by Auckland based Somali women from a health survey.

## *13.3 Assisted deliveries*

Assisted deliveries are vaginal deliveries that need some form of assistance (e.g. Ventoux or forceps). Table 56 shows that African and Middle Eastern women had a lower percentage of assisted deliveries compared to Others while Latin American women had a higher percentage (16% compared with 13%).

**Table 56: Number and percentage of assisted deliveries in hospitals in adults (15 + years) in the Auckland region, by ethnicity, 2006-2009**

| Ethnicity | Number | Percentage of all deliveries |
|---|---|---|
| African | 58 | 8% |
| Latin American | 54 | 16% |
| Middle Eastern | 106 | 10% |
| Others | 6,625 | 13% |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

## *13.4 Caesarean sections*

According to the World Health Organization, the caesarean section rate should not be higher than 10 to 15%.(67) In 2004 in New Zealand, caesarean sections accounted for 24% of all deliveries.(66)

Table 57 shows that in Auckland, African (31%) and Latin American (32%) women had a slightly higher percentage of caesarean section deliveries compared with Others (29%), while Middle Eastern women had a lower percentage (27%).

**Table 57: Number and percentage of caesarean section deliveries in hospitals in adults (15+years) in the Auckland region, by ethnicity, 2006-2009**

| Ethnicity | Number | Percentage of all deliveries |
|---|---|---|
| African | 232 | 31% |
| Latin American | 110 | 32% |
| Middle Eastern | 288 | 27% |
| Others | 15,283 | 29% |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

## *13.5 Pregnancy complications*

Data is shown below for common pregnancy complications such as pre-eclampsia, diabetes and ectopic pregnancies.

### 13.5.1 Pre-eclampsia

Pre-eclampsia is a common complication of pregnancy where there is a sharp rise in maternal blood pressure and significant proteinuria[j]. In severe cases it may progress to eclampsia, which is a condition characterised by coma and seizures. Approximately 2% of African and Middle Eastern deliveries were complicated by pre-eclampsia which was similar to Others.

[j] Proteinuria is a term used to describe excess amounts of protein in the urine.

**Table 58: Number and percentage of deliveries complicated by pre-eclampsia in hospitals in adults (15+ years) in the Auckland region, by ethnicity, 2006-2009**

| Ethnicity | Number | Percentage of all deliveries |
|---|---|---|
| African | 13 | 2% |
| Latin American | 3 | 1% |
| Middle Eastern | 20 | 2% |
| Others | 1,009 | 2% |
| Maori | 316 | 2% |
| Pacific | 529 | 3% |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

### 13.5.2 Diabetes in pregnancy

Diabetes in pregnancy may pose a risk to the mother and foetus if uncontrolled. Middle Eastern (5%) mothers had a slightly higher percentage of deliveries complicated by diabetes than Others (4%) and Maori (3%) but a similar percentage with Pacific people (5%). African mothers had a similar percentage of deliveries complicated by diabetes in pregnancy as Others, while Latin Americans had a lower percentage.

**Table 59: Number and percentage of deliveries complicated by diabetes in pregnancy and deliveries complicated by diabetes, in hospitals, in adults (15+ years) in the Auckland region, by ethnicity, 2006-2009**

| Ethnicity | Number | Percentage of all deliveries |
|---|---|---|
| African | 27 | 4% |
| Latin American | 10 | 3% |
| Middle Eastern | 48 | 5% |
| Others | 1,854 | 4% |
| Maori | 369 | 3% |
| Pacific | 1,048 | 5% |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

There is a need for long term monitoring for diabetes in Middle Eastern women (who have had diabetes in pregnancy) as even if their gestational diabetes were to resolve, their long term diabetes risk may be 20 to 50% in the 5 to 10 years following pregnancy.(68)

### 13.5.3 Ectopic pregnancies

Ectopic pregnancies are pregnancies that occur outside the uterus (usually in the Fallopian tubes). Complications can arise from ruptured ectopic pregnancies that can lead to life threatening blood loss. In Auckland, in women aged 15-44 years, Latin American women appeared to have a hospitalisation rate almost three times the rate of Others. It is uncertain why this might be so and the rate needs to be interpreted with caution as the total population number for Latin American women aged 15 to 44 years was small.

**Table 60: Age specific hospitalisation rates (per 100,000) of ectopic pregnancies in women 15-44 years, by ethnicity, in the Auckland region, 2006-2009**

| Ethnicity | Number | Age specific rate (per 100,000) |
|---|---|---|
| African | 15 | 139 |
| Latin American | 11 | 367 |
| Middle Eastern | 16 | 126 |
| Others | 1,008 | 111 |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others= all non-MELAA, non-Maori, non-Pacific

## *13.6 Sexual health*

### 13.6.1 Termination of pregnancy

In the Auckland region, the Epsom Day Unit provides termination of pregnancy (TOP) services through the public health care system. The Auckland Medical Aid Centre provides a similar service privately. Data from the latter organisation was not available for the MELAA population.

The TOP rate was highest in the 20 to 29 year old age group in all compared ethnicities (Table 61 and Figure 104). The highest rate in this age group was in the African population, followed by Latin American women. Middle Eastern women in the ≥ 30 year old age group had a TOP rate higher than Others. African and Latin American women appeared to have the highest TOP rates in teenagers compared to the other two groups.

Internationally, the Latin American region has been shown to have the second highest abortion rate after Europe, and almost all abortions are illegal.(69) For the African region, almost all abortions are illegal and the rates were estimated to be close to the world average(69).

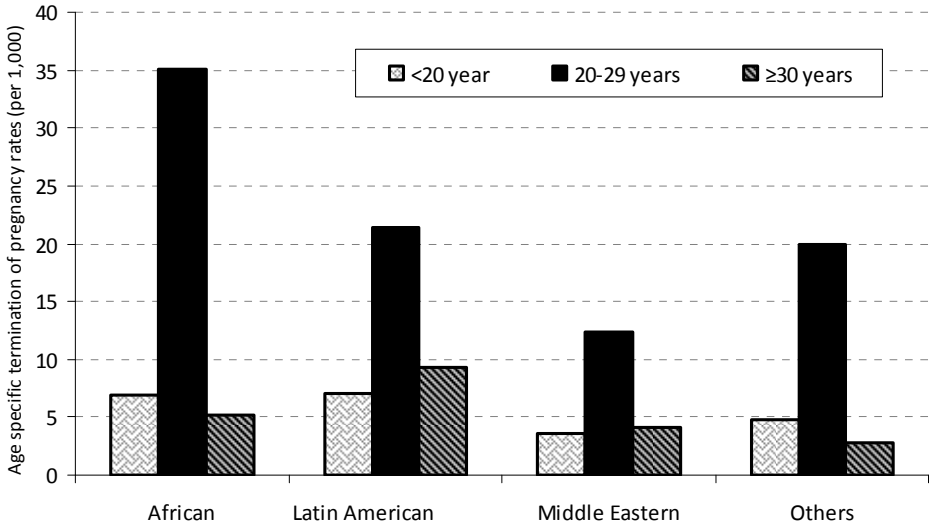
The trends seen with this analysis indicate a need for better contraception and sexual health education aimed at African and Latin American youth. For Latin Americans, there may be a cultural element to this and will need to be explored further.

**Table 61: Number and age specific rates (ASR, per 1,000) for terminations of pregnancies by age group and ethnicity in the public sector for the Auckland region, 2006-2009**

| | African | | Latin American | | Middle Eastern | | Others | |
|---|---|---|---|---|---|---|---|---|
| **Age Groups** | **Events** | **ASR** | **Events** | **ASR** | **Events** | **ASR** | **Events** | **ASR** |
| <20 year | 48 | **7** | 8 | **7** | 28 | **4** | 2,362 | **5** |
| 20-29 years | 117 | **35** | 21 | **21** | 64 | **12** | 5,592 | **20** |
| ≥30 years | 46 | **5** | 25 | **9** | 46 | **4** | 3,696 | **3** |

Source: Epsom Day Unit dataset. Ethnicity as per custom prioritisation
Note: Others= all non-MELAA, non-Maori, non-Pacific. Data for private TOP was not available.

**Figure 104: Age specific rates (per 1,000) for termination of pregnancy by age group and ethnicity in the public sector for the Auckland region, 2006-2009**




Source: Epsom Day Unit dataset. Ethnicity as per custom prioritisation
Note: Others= all non-MELAA, non-Maori, non-Pacific. Data for private TOP was not available.

**"In teenagers from these ethnicities, sexual health is not talked about at home. Only gets some basic sexual health teaching as part of health in school education syllabus."**

**"There is also a huge condom resistance by men."**

### 13.6.2 Sexually transmitted infections

Hospitalisation rates for sexually transmitted infections indicate that women are more adversely affected than men (Figure 105). African and Latin American women appeared to have higher hospitalisation rates from sexually transmitted infections than Others. The data indicates that African and Latin American people may not be accessing or engaging effectively with community/primary health service providers on contraception and sexual health matters.

**Figure 105: Adult (15 to 74 years) age standardised hospitalisation rates from sexually transmitted infections by gender and ethnicity, for the Auckland region, 2006-2009**

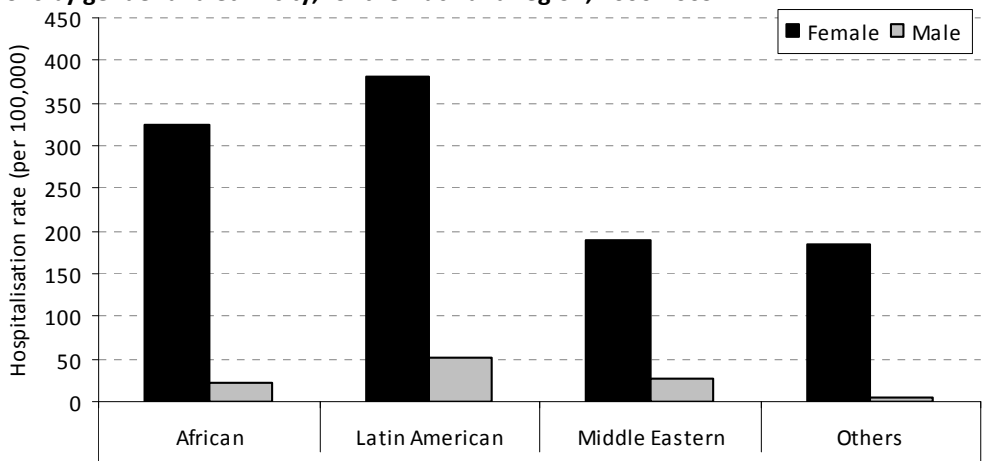



**Table 62: Age standardised rate (per 100,000) and total number of hospitalisations from sexually transmitted infections in adults (15 to 74 years) by gender and ethnicity, for the Auckland region, 2006-2009**

| Ethnicity | Female | | Male | |
|---|---|---|---|---|
| | Events | Rate | Events | Rate |
| African | 53 | **324** | 4 | **23** |
| Latin American | 19 | **381** | 1 | **52** |
| Middle Eastern | 37 | **188** | 4 | **28** |
| Others | 2,818 | **184** | 72 | **5** |

Source: NMDS 2006-2009, custom prioritised ethnicity
Note: Others equals all non-MELAA, non-Maori, and non-Pacific people.

**"Chlamydia infections are very prevalent in all teenagers, so these populations also need the education, but there is a lack of resources to teach them. This is not talked about at home."**

**"Muslim boys who are circumcised think they will not be able to get any sexual 'disease' as they are protected by being circumcised."**

### 13.6.3 Female Genital Mutilation (FGM)

Female genital mutilation (FGM) is defined as *"all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs whether for cultural or other non-therapeutic reasons"*.(70) It is a practice that is deeply rooted in cultural, social and religious beliefs and needs to be understood within this context. Despite its harmful physical effects, in the societies where it is practiced, FGM may be seen positively as it provides women and girls with many social and cultural advantages.

It is a crime (under the New Zealand Crimes Act Amendment 1996,sections 204A and 204B) to perform FGM on a child in New Zealand or sending a child overseas for this procedure.(6) In New Zealand, the

main communities affected by FGM are the Somali, Ethiopian, Egyptian, Eritrean and Sudanese communities.(71) The largest group affected by FGM in New Zealand is the Somali community. Almost 98% of Somali women have undergone FGM, with 80% having the most severe form of FGM.(71)

There is no population level data on the prevalence and effects of FGM for all affected groups in the Auckland region. The *'FGM 2008 Health Care Survey'* follows an earlier survey carried out in 1997 to identify the health care needs of Somali women affected by FGM in Auckland and was published in 2009.(71, 72)

The 2008 Survey interviewed 70 Somali refugee women in Auckland who had undergone FGM, aged between 16 to 70 years. This proportion of women accounted for approximately 23% of the estimated adult female Somali population in Auckland. Comparing results from the earlier survey, findings included(71):

- 97% of women had undergone FGM, of which 58% reported perceived complications.
- An increased level of satisfaction for maternity services in New Zealand, with 69% of the 32 women using hospital midwives, 28% using community midwives and 3% using a specialist.
- An increase in health care providers' awareness of, and sensitivity to, FGM issues.
- Less satisfactory communication levels between providers and women, especially regarding FGM and appropriate options for delivery and post partum care, and deinfibulation[k].
- A high number of LMCs were not undertaking FGM clinical assessments as part of antenatal care.
- An under use of deinfibulation services, due to a lack of knowledge about the service and/or a reticence to use the service.
- Limited support amongst the women for obstetric interventions such as induction of labour and caesarean sections.
- Key complications of FGM as perceived by the women included difficulty with sexual intercourse, dysuria, dysmenorrhoea, childbirth problems and urinary tract infections.

**"Some students picked up as having behaviour problems, but may actually be problems relating to FGM issues such as period pains, infections and micturation difficulties which can be embarrassing and isolating."**

**"Girls who have undergone FGM in Africa would spend 3 to 4 days in bed with period pains during menses, but in New Zealand they would be expected to go to school. Also as passing urine could take 10-20 minutes, these girls avoid using toilets in school and do not drink much water which can result in them becoming dehydrated and fainting. These girls would also usually not be able to use tampons during their periods and hence would not take part in swimming, but some teachers would not understand why."**

## *13.7 Summary of women's and maternal health*

- Total fertility rates
  - The TFR in 2006 for the MELAA group nationally (2 children) was slightly higher than European/Other and Asian groups but lower than Maori and Pacific.
  - The fertility rate in MELAA women was highest in the 30-34 year old age group and MELAA women aged 30 to 44 years had more children than their equivalent European/Other, Asian or Maori (similar to Pacific).
- Deliveries
  - Within the MELAA group, Middle Eastern women had the highest number of live births and rate of delivery within MELAA.

[k] Infibulation is a term used to describe the most severe form of FGM (Type III). Deinfibulation is a surgical procedure which involves an incision of the covering of the hood of the tissue for those women who have had Type III infibulations.

  - The MELAA groups had a similar percentage of teenage deliveries as Others (3%). Latin American women appeared to have a higher rate of teenage deliveries than Others and the highest within MELAA.
  - Latin American women had a higher percentage of assisted deliveries compared with Others.
  - African and Latin American women had a slightly higher percentage of caesarean section deliveries compared with Others.
- Complications of pregnancies
  - Middle Eastern mothers had a slightly higher percentage of deliveries complicated by diabetes than Others and Maori, similar to Pacific.
  - Latin American women appeared to have a hospitalisation rate almost three times the rate of Others for ectopic pregnancies.
- Sexual health
  - African and Latin American women appeared to have the highest TOP rates in teenagers compared to the other two groups. They also had the highest rate in women aged 20 to 29 years.
  - African and Latin American women appeared to have higher hospitalisation rates from sexually transmitted infections than Others.
- Female genital mutilation (FGM)
  - The '*Female Genital Mutilation (FGM) 2008 Health Care Survey'* surveyed 23% of the estimated adult female Somali population in Auckland and 97% of them had undergone FGM, of which 58% reported perceived complications.

# 14 Thematic review of health needs

A thematic review on the health needs of Middle Eastern, Latin American and African people was undertaken by a separate health analyst in the Planning and Funding department at ADHB.(73) It summarised findings from available literature (including research, policy and planning) targeting Middle Eastern, Latin American and African communities residing in New Zealand with a particular focus on Auckland. The key points from the review are summarised in this chapter.

## *14.1 Socioeconomic determinants of health*

### 14.1.1 Deprivation

The MELAA groups in New Zealand had similar shared concerns as that identified with New Zealand's 'low income' groups. This was impacted further by the lack of English language proficiency and the poor levels of literacy, leading to greater social isolation and low levels of awareness and access to health and social services.(74)

### 14.1.2 Housing

These communities also have reduced access to affordable and quality housing resulting in worse health outcomes from dampness and the cold.(74) Long waiting lists for state housing have been associated with these migrant populations overseas.(75)

### 14.1.3 Employment

The employment status for people from these communities is strongly associated with the state of their mental health.(74) As employment status is invariably linked with level of qualifications, these communities have varying levels of success as they have a very broad range of qualifications but often these qualifications are not recognised in New Zealand leading to employment in low skill, high labour jobs which may negatively impact their health status.(76)

### 14.1.4 Language and literacy

Integration into mainstream society is influenced strongly by levels of English language proficiency and these communities have limited ability to do so as they have poor English proficiency.(76) These groups also have limited opportunities to develop English language proficiency as there are significant barriers in accessing 'English as a second language' (ESOL) classes. Mothers with young children and elderly experience the strongest barriers as they are often confined to their houses.(76) There is also limited access to some of these classes that have long waiting lists.(76)

## *14.2 Health status*

### 14.2.1 Infectious diseases

The MELAA populations have been noted to experience higher rates of infectious diseases (tuberculosis in particular). It is likely that the rates of infectious disease may be under estimated as these populations may have no access to or knowledge of screening programmes. It has been suggested that health screening in these populations needs to focus on the health needs rather than concentrating on protecting New Zealand from communicable disease.(77)

### 14.2.2 Fitness and nutrition

Middle Eastern and African migrants are less likely to be physically active than Europeans. This is likely due to several factors that include a lack of women only exercise facilities, affordability of exercise facilities or equipment and a lack of time.(78) These communities also tend to adopt New Zealand dietary patterns which results in a higher consumption of easily available and affordable high fat foods and low consumption of fruits and vegetables. Low exercise levels and poor quality dietary intake have impacted negatively on these populations resulting in a high rate of overweight and obesity.(74)

### 14.2.3 Mental health

Middle Eastern and African communities experience a disproportionately higher rate of mental health illness compared with the rest of New Zealand, largely due to their earlier life experiences and potential exposure to torture, violence, rape and harassment. Environmental and social changes in the new host country can result in significant cultural adjustments for these communities, impacted further by the lack of support from their usual networks of family and community. There may also be strong emotions of grief and loss for family, culture, country and social status.(74)

Other resettlement issues that these groups face such as discrimination, poor social network, unemployment and underemployment, have significant impacts on mental wellbeing. Experiencing discrimination is strongly linked with high levels of anxiety and depression which negatively affects Post Traumatic Stress Disorders (PTSD).(74) Mental illness is also stigmatised in these communities which results in limited use of appropriate assessment and treatment services, especially in smaller communities.(79)

### 14.2.4 Women's health

There is a preference for women from these cultural backgrounds to use interpreters and health care practitioners of the same gender.(77, 80) There is however an underestimation by health professionals on the degree of communication difficulties that some women experience when dealing with informal interpreters, especially around trust, appropriateness and awareness, and these factors need to be considered when providing interpretive services.(74)

Areas of concern include low levels of health screening, particularly in cervical and breast cancer screening.(81) For the African and Middle Eastern women, other health issues of note include Female Genital Mutilation (FGM)(71) and the need for more education around pregnancy and child birth in New Zealand.(82)

### 14.2.5 Children's Health

It is important to note that for some children in these communities, exposure to physical and mental torture and trauma is significant. Young children who experience trauma are particularly vulnerable to ongoing mental health problems, in particular PTSD.(83, 84)

## *14.3 Health service provision*

### 14.3.1 Barriers to accessing health services

#### 14.3.1.1 Language

These communities usually have limited English proficiency and sometimes struggle to effectively communicate problems and symptoms to health professionals.(85) This is especially a problem in primary health care settings due to a lack of interpretive services at general practice consultations.[l] Interpretive services in New Zealand are provided in hospitals but often these communities have little prior knowledge regarding health services and entitlements. Language difficulties are also larger than just the face-to-face consultation with a service provider as it also includes enrolment, making appointments, filling out forms and understanding instructions.(74)

#### 14.3.1.2 Culture

The cultural norms and practices of the health services in the home country of these populations are significantly different from that of mainstream New Zealand. These communities have different perceptions of health and illness which influences their ability and willingness to utilise and engage with health care services in the New Zealand.(74) This is especially noted around perceptions of what is considered 'valid treatment' and a non-understanding of system processes surrounding referrals, waiting lists and appointments.(85)

[l] Since July 2009, all three Auckland DHBs have offered free interpreter services for use by primary health service providers.

There is a low level of health care provider knowledge and awareness of not only the diverse cultural backgrounds but also the experiences and needs of these migrant populations[m]. There appears to be a need for effective cultural awareness training for health service providers, especially in primary care.(74)

#### 14.3.1.3 Cost

As these communities often have multiple and complex health problems, seeking medical attention can result in a significant financial burden on a population which is already experiencing economic hardship. This often results in delays in seeking medical assistance due to unmanageable costs.(74)

Cost is one of the main reasons which appears to contribute to the presentation of patients from these communities to emergency services as opposed to primary care.(74) Due to the cultural differences in health care services in their home country, some of these groups also perceive general practice services as not being value for money, especially if no prescription is given.(85)

#### 14.3.1.4 Other issues

Trust is a significant factor in some members of these communities accessing and engaging with health services providers especially around issues relating to mental or sexual health. Where issues are very personal or if other family or community members are present, consultations were often not fully utilised in general practice facilities.(85)

Physical accessibility and transport issues are also barriers to accessing health services mainly due to a lack of transport and a lack of public transport knowledge.(74)

[m] On-line Cultural and Linguistic Diversity (CALD) training was made available to all general practices and DHB health providers from April 15th 2010 to improve health service provider cultural competency.

# 15 Health service provider interviews

In order to better understand the roles of health service providers (HSP) and the needs of the populations studied, a limited number of health service provider interviews were conducted. The objectives and methodology were presented in chapter 3 (Part 3.8).

Themes are classified into six broad headings as described below:

- Key concerns or issues around the health needs of the MELAA populations
- Key cultural differences
- Barriers to health care
- Enhancers of health care
- Knowledge gaps and unmet needs
- Other comments

*The language used to summarise the themes is largely based on what was said by the interviewees and not based on the author's opinion. Key quotes are interspersed within the summary in text boxes.*

## *15.1 Key concerns or issues around the health needs of the MELAA populations*

### 15.1.1 Chronic diseases

- There are an increasing number of Middle Eastern and African patients seen with diabetes and heart disease. Many have multiple co-morbidities and other complex social issues making management of these diseases difficult. They also have poor knowledge and understanding of these diseases.

### 15.1.2 Mental health conditions

- Health service providers noted that patients from refugee backgrounds and also migrants from Middle Eastern and African countries have significant mental health stressors and expressed a need for better mental health diagnosis, treatment and support services for these communities. The two conditions that were commonly mentioned were:
    - Post traumatic stress disorder (PTSD): Many of the people from these communities have very significant issue to deal with such as death, sexual violence, war, physical abuse, or psychological trauma.
    - Depression: Mainstream counselling services are failing to engage and respond appropriately to these communities.

**"Quite obvious physical manifestations (of PTSD)… where the boys can be aggressive or violent, girls can be withdrawn and passive …can close down completely."**

### 15.1.3 Sexual health and communicable diseases

- African communities have a high prevalence of HIV infection.
- Middle Eastern and African people have a high prevalence of tuberculosis.
- Female genital mutilation is an issue mainly for Muslim African girls.
- Most of the young people from these communities have a poor level of sexual health knowledge

**"Chlamydia infections are very prevalent in all teenagers, so these populations also need the education, but there is a lack of resources to teach them. This is not talked about at home."**

**"Muslim boys who are circumcised think they will not be able to get any sexual 'disease' as they are protected by being circumcised."**

**"Some students picked up as having behaviour problems, but may actually be problems relating to FGM issues such as period pains, infections and micturation difficulties which can be embarrassing and isolating."**

### 15.1.4 Nutrition

- Most people eat well but may have poor diets due to a lack of education.
- Other nutritional concerns include low iron intake (leading to anaemia), low vitamin B12 levels and low zinc levels (leading to decreased immunity and skin problems).

### 15.1.5 Disability

- There has been an increase in the number of refugee families referred to disability services in the last few years. There is an immense need in the communities for disability services and they need high levels of input.

### 15.1.6 Obesity

- Obesity is a growing issue in migrants who have been here for several years. Most arrive severely malnourished but then gradually gain significant amounts of weight. This may be linked to their diet in New Zealand and the fact that they are no longer facing famine conditions.
- Most do not have the information or the knowledge on good nutrition or diet.
- In New Zealand, these communities lack activities needing much physical exertion compared to their home countries (e.g. walking for firewood in Africa).
- There is a growing number of school aged children and women who are obese.

### 15.1.7 Vitamin D deficiency

- People from Middle Eastern and African backgrounds have low Vitamin D levels. Women and children especially were noted to be at risk as they avoid the sun (they think it is very damaging), and also cover up due to their conservative cultural backgrounds.

### 15.1.8 Physical inactivity

- People from these ethnicities do not appear to promote regular exercise or physical activity as part of daily living.
- In women, it may be more difficult to exercise due to being quite conservative in dressing and behaviour.

### 15.1.9 Social issues

- Isolation:
  - In dealing with medical problems, especially HIV infection, disabilities and mental disease, they receive no societal support as the disease is often kept very secretive.
  - Many older members of a family spend many hours at home by themselves, disengaged from the rest of the community.
- Poverty:
  - Many have significant financial issues and difficulties finding work.
- Loss of standing in the society:
  - Being marginalised and facing racial discrimination based on ethnicity.
  - Many people feel marginalised based on the traditional clothes they wear or how they speak.
- Cultural adjustment issues:
  - A large number of refugee children have spent most of their lives in refugee camps and face significant problems with integrating at schools including behavioural disorders and delayed educational progress.

## *15.2 Key cultural differences*

### 15.2.1 Faith

Faith is very important to Muslim patients:

- Fasting in the month of Ramadhan results in difficulties in managing diabetes. The diabetes services find that general practitioners tend to refer Muslim patients especially around Ramadhan time and that Muslim patients tend to call the diabetes nurse more frequently over Ramadhan.
- For Muslim youths, fasting during Ramadhan can lead to dehydration and faints. In order to treat them with oral fluids, the school nurse approached the Imam (religious leader) from the local mosque to state it was okay for these students to have water if it was deemed medically needed.
- Significant concerns and fear in having Caesarean sections as in the Muslim faith, **"the baby will come when it's ready"**. Similar reason as to why some Muslim women are opposed to induction.
- The way a health practitioner dresses affects how Muslim patients engage with them, as patients can feel uncomfortable in certain situations.

**"Faith and family are very important to them (referring to Muslim patients)."**

### 15.2.2 Differences in gender roles

These communities have very defined roles and appropriateness of interaction based on the gender of the person:

- Muslim men and women who do not know each other do not sit next to one another.
- The husbands/men usually speak on behalf of their wives/women.
- Women from these ethnicities may be very conservative in their dressing and speech. Physically examining some women from these backgrounds may be difficult as they are quite conservative over the exposure of their bodies. Women also generally prefer seeing female doctors.
- Men prefer seeing male doctors about 'male problems'.

**"Men and women do not invade each others spaces. It is about respecting each other."**

### 15.2.3 Family

Health professionals should be mindful to not distort the family dynamics and to acknowledge all the family members present. This is to ensure that important family members are not made **''voiceless''** or **''powerless''**.

- Muslim patients prefer to see general practitioners as a family- not just the wives or husbands. They usually come together and use the same doctor for primary services.

**"Women usually attend clinics with their husbands, which is good in getting the husbands involved and overall it feels that the husbands are very supportive."**

### 15.2.4 Perceptions of illness and disabilities

Many of these communities perceive illness and disability differently:

- Quite often disability is something that needs to be hidden away, and there is a lot of shame and myths attached to disabilities. Children with Aspergers and autism are especially hard to deal with by some families as they do not understand these conditions and find it hard to practice behaviour management techniques. Some of the parents also have too high expectations of their children when they may actually need to be nurtured a different way.
- Illnesses (such as HIV) can be viewed very differently by the various communities. It is important to place it in its cultural context.

**"Initially there was a lot of resistance to (HIV) testing. Husbands would abandon wives who were positive and refuse to be tested. There was lots of stigma around the diagnosis. This is because in Africa, until quite recently, there were no retrovirals available and a diagnosis was equivalent to death."**

- African communities have different perceptions of health and obesity. They tend to over-feed their children as they want to have fat/chubby children as in their culture being fat/chubby is an advantage (during famine situations).

**"Mothers' are very happy if their child is very much over the growth chart. It is considered very good amongst them and they are not happy with average weight babies."**

**"Some women don't eat a lot during their pregnancy as they fear the baby will get big and they will not be able to give birth normally."**

- Cultural practices post-natally may be very different.

**"Some women think they should spend one month in bed and should not shower and they also tend to over-wrap their babies."**

- FGM may not be seen as inappropriate by some of these communities as it was a way for women to improve their circumstances socially in their countries of origin.

**"Girls who have undergone FGM in Africa would spend 3 to 4 days in bed with period pains during menses, but in New Zealand they would be expected to go to school. Also as passing urine could take 10-20 minutes, these girls avoid using toilets in school and do not drink much water which can result in them becoming dehydrated and fainting. These girls would also usually not be able to use tampons during their periods and hence would not take part in swimming, but some teachers would not understand why."**

### 15.2.5 Differences in health care systems

- These communities come from very different health systems (models) compared to New Zealand. Some have no concept of general practice services or preventive health care (e.g. cervical screening).
- Some patients can be quite demanding and expect to be seen straight away as they do not seem to understand the concept of waiting times or elective surgery. They assume care will be quick or instantaneous.

**"When you don't respond to cultural practices as a health professional, you straight away alienate your clients."**

## *15.3 Barriers to health care*

### 15.3.1 Language

- Language is seen as the main barrier to health care by almost all HSPs.
- Language difficulties have significant impacts on the use of health services and quality of management.

**"Language is a huge problem as most still have poor English skills and struggle to communicate."**

### 15.3.2 Health literacy

- Patients from Middle Eastern and African countries are usually less knowledgeable and are unfamiliar with New Zealand cultures and health systems.

- HSPs commented on the difficulty associated with teaching them many things which are assumed as basic skills. This can make managing chronic diseases difficult.
- Some groups within these ethnicities are much better educated and have better health literacy than others, but overall the health literacy in these communities appears poor and there is a lack of understanding by these communities on what support services are available to them.

**"In Somalia, only in 1972 was there a written language. Thus many of the Somali women may not be able to read or write in their own language (let alone English). Hence educational information or resources provided at clinics or hospitals may be ineffective for these groups as many may be pre-literate."**

**"A patient seen by a psychiatrist will not understand why they ask them many intimate questions and fear it may affect their refugee or residency status and will fail to engage with the clinician. They find it hard to understand. They feel they are being asked too many questions. These patients need to be educated on why these questions need to be asked."**

### 15.3.3 Transport

- Transportation to and from clinic can be an issue for patients from these ethnicities as they are usually dependent on another person for transport.
- Many children avoid or delay going to the doctors because they rely on parents for transport and they know their parents are working or are unable to afford petrol.
- Women especially rely on men/husbands to provide transport.

**"We help do a lot of transporting of refugee families to other health appointments at the hospital. Its not part of the brief, but we have identified transport as an issue and (we) will help if appropriate"**

### 15.3.4 Time

- Many HSPs noted that the usual consultation time for an appointment is not enough for Middle Eastern or African patients. They usually need a lot done and it takes longer to communicate. It also takes more time to train, teach or educate them on health matters.
- More time is needed to engage with these patients and understand their concerns and experiences. However, this is hard to do as consultations are time restricted. Usually have to bring the patient back to clinic and gradually build the trust and engagement. Less time is needed during later consultations as the interaction and relationship improves.
- Some HSPs resolve this issue by scheduling more frequent follow-ups for these patients compared to other ethnicities.

**"Refereeing and accessing the right services for these women takes up a lot of extra time and can also be quite confusing."**

### 15.3.5 Lack of social supports

- A lot of these individuals and families lack good social supports which results in HSPs having to do a lot more for these patients than usual.

**"Quite often you have to be a catalyst to refer to other (non-health) services."**

- For children from these backgrounds, parents usually have poor language skills and provide inadequate support. Often, parents are too busy to take their children to see doctors during working hours.
- Families affected by disability are especially at risk of isolation as they tend to remain isolated from the rest of their community because of the stigma attached to disability or the need for them to stay at home and take care of a child with disabilities.

### 15.3.6 Cost of health care

- Cost is a significant barrier to seeking health care.
- Some children avoid/delay seeing the school nurse or doctors (or going on medications) due to the costs involved to the family.

**"Cost is a huge thing-…they do not see going to the doctor as being relevant if it means that they might not have enough money to eat."**

### 15.3.7 Lack of privacy/or perceived lack of confidentiality

- As some of these communities are very small and live within close proximity, going to a clinic or seeking medical attention is perceived as a situation where there may be a lack of privacy or confidentiality.
- For the youth, it can be especially problematic if seeking confidential advice on sexual health concerns.

### 15.3.8 Lack of cultural understanding by health service providers

- Many patients find it very frustrating engaging with mainstream services due to the lack of cultural understanding and the inability to communicate effectively in their own language.

**"Usually the lack of cultural understanding by the health care provider is a barrier to these patients. Health care providers need to be exposed to multiethnic areas."**

### 15.3.9 Lack of trust and fear of Western health systems or models of care

- Fear and trauma relating to using Western health services are significant barriers to health care.
- These communities have very different and variable cultural models and perceptions on health problems- e.g. HIV is perceived as **"a curse from God".**
- Some women are fearful of having Caesarean section deliveries as in the Muslim faith **"the baby will come when it's ready**". They may also have a strong belief in their own traditional models of medicine (e.g. the use of witch doctors or traditional healers to lift a curse) and do not engage with Western medicine.

**"Many of these women feel that Western medicine is intolerant of some of their cultural practices and are too embarrassed or fearful to inform the nurses/doctors of certain conditions."**

## *15.4 Enhancers to health care*

### 15.4.1 Having health service providers who understand them

- Patients prefer to see someone who understands their culture, background and language, especially due to the concerns they have with their past experiences in their home countries and ongoing concerns.
- Many patients may present with physical symptoms but on further discussion and good engagement it may be a manifestation of an emotional or mood disorder. Careful relationship building and counselling needs to be undertaken before starting treatment with antidepressants or other psychotropic drugs for mental health disorders.
- Patients from these backgrounds do not like taking medications straight away and need to be warmed up to the idea with trust building. Otherwise they will not start the treatment.
- Many of these patients seek to enrol in certain general practices based on recommendations from other members of their community and they prefer seeing health service providers who speak the same language as them.

**"In our culture, they think that only mad people are started on medicines, so that is why I have to explain and discuss (the mental condition) with them and counsel them before (starting medicines for mental illness)"**

**"Nursing in these areas…. you don't enter into their minds , you have to enter into their hearts because its chronic care and you are going to be seeing them repeatedly for their chronic disease so gaining their trust is vital."**

Examples of services that have especially targeted culturally appropriate health care workers are listed below[n]:

- Having a Muslim diabetes nurse specialist in Auckland- found that it promotes engagement and trust. She sees patients from these ethnicities as they usually have complex issues and she can overcome cultural barriers.
- The child disability services at ADHB has culturally appropriate community health workers for Arabic speaking communities, in order to improve access for Middle Eastern families to disability services. They also educate the rest of the disability team on the cultural needs specific to these clients.
- Plunket services have community health workers that look after high needs clients- mainly from migrant and refugee backgrounds in central Auckland.

### 15.4.2 Interpreters at clinic

- Most hospital HSP praised the face to face interpreter services provided by the hospitals.
- In tertiary care, interpreters are usually present at every consultation and are also used to confirm appointments pre-clinic (which establishes early engagement with patients).
- Interpreters also appear to fulfil a much broader role than just interpreting as some provide a whole range of social support for these families as well.
- Interpreters often go beyond their brief and having someone who speaks their language encourages trust and relationship building between the services and their clients.

### 15.4.3 Having HSPs use appropriate communication techniques

HSP should do the following when engaging with patients to enhance their care:

- Use appropriate body language
- Acknowledge all family members present
- Respect relationships
- Greet patients in their own language where possible
- Introduce new medications or interventions slowly
- Always check their understanding and follow up regularly

**"Gaining their trust is key to management success."**

### 15.4.4 Providing targeted services

Having targeted services that cater for MELAA patients integrated within mainstream services appears to be effective:

- Providing a drop in service at the Mount Roskill diabetes satellite clinic seems to be effective as local community members just walk to clinic.
- Having community based midwifery clinics promotes attendance as women walk to these clinics and seem to appreciate them.
- Having ethnic specific play groups (coordinated by Plunket). Mothers from these ethnicities seem to prefer attending ethnic specific play groups. The concept works well, as it is handy to the homes of most of the community.
- In order to deliver programmes that are targeted at community groups, the model that is used by the FGM education group has been quoted as being effective. It involves consultation with communities, collaboratively designing a programme and training nominated key people from these communities to deliver the programme. This mobilise community awareness and

[n] The examples given here are based purely on information shared by interviewees. Of note, other HSPs not interviewed have also been providing culturally appropriate health care workers e.g. WDHB has culturally appropriate community health workers for Muslim communities (in child disability services).

education, increases the diversity of the work force and also provides members of these communities' employment opportunities.

**"As a principle, stuff that's not community consulted and community driven could be bound to fail from lovely well meaning Kiwis"**

### 15.4.5 Having good community supports and networks

- Good supports in the community strengthen the work done in secondary services.
- Most of the established larger African communities seem to be well linked and have well established social networks.
- HSPs emphasised the need to engage with the affected communities when planning and providing targeted health services.

### 15.4.6 Having well linked and coordinated services

Having services that are well coordinated and linked is important for these communities:

- For child health, there is good linking between multi-disciplinary/multi-agency services such as the Refugee Health Centre, Refugee Services, Te Pua Wai Tahi Services and the ESOL services in the school.
- The HIV team at ADHB has a full time social worker. When patients from the Mangere Refugee Centre are referred, the HIV nurses establish contact with patients prior to them leaving the refugee centre. The HIV services have also established a family clinic on site so that paediatricians and nurses involved in the care of HIV infected children see them at the same time the adult services see the parents.
- The FGM education service was repeated by several HSPs as a **"fantastic"** service. The service appears well linked with community groups and different HSPs.
- There is good linkages between Plunket and other services such as ESOL classes for mothers (that are provided in Plunket premises), 'Families Start' (a service run by the Anglican Trust) that provides social workers and parenting education (which also has Iraqi social workers), and the 'Parents As First Teachers' (PAFT) programmes which has different ethnic workers to support some of these families from birth.

### 15.4.7 Having female practitioners see female patients

- Overall, most HSPs stated that many of the women from these ethnicities preferred seeing female health care practitioners.

**"Some (Arabic) ladies have never been physically exposed before- hence the time around delivery and the level of exposure can be quite traumatic for them".**

- Some conservative Muslim patients may not engage with female health providers as women are not seen as having equal standing to men.

### 15.4.8 Scheduling longer and more appropriate appointment times

- As patients from these communities need longer consultation times, it is better to schedule a longer visit or acknowledge that the HSP is not going to be able to complete everything in the first assessment.
- Providing appointment times that allow for husbands to bring these women to clinic at a time that is more suitable (i.e. after work) is an enhancer to health care.

### 15.4.9 Engaging with religious leaders

- It is useful to engage with the Muslim leaders from the local mosque if wanting to change community behaviour or attitudes as well as around finding solutions for health problems.

### 15.4.10 Educating HSPs

- Education of health care providers around medical conditions relevant to these populations and best practice recommendations that are culturally appropriate has been shown to be effective (e.g. the introduction of the FGM education programme has resulted in the women's care improving dramatically).

## *15.5 Knowledge gaps and unmet needs*

There were common suggestions made by most HSPs that were interviewed on knowledge gaps, unmet needs and ways to improve services for the MELAA population.

**TARGETED ANTENATAL EDUCATION**

- There is very poor antenatal education uptake by theses communities and they would benefit from the teaching. These sessions are not provided by midwives, and cater for mainstream English speaking groups. The women feel intimidated or inhibited and hence do not attend the sessions. The women also find it hard to get there (usually reliant on husbands for transport) and attendance does not factor high for them.
- Antenatal education should be provided in a more appropriate form for these communities. It may be better attended if done in an interactive manner via female only dance classes for each ethnic group where the instructor could talk about the pelvis and the birth process. The classes would be fun and would provide opportunities for the women to talk to one another and interact in a safe non intimidating environment. The classes could be lead by a member of the community and a midwife.
- Alternatively, midwives could be funded to provide more antenatal visits and spend more time educating these women one on one.
- Antenatal education for these communities should include explanation of the indications for inductions and caesarean section in New Zealand and provide information on nutrition, diet and the importance of antenatal visits as well as family planning.

**SEXUAL HEALTH EDUCATION**

- More health brochures in a variety of languages need to be readily available in school nurse and GP clinics on sexual health issues (especially those relevant to youth).

**"In teenagers from these ethnicities, sexual health is not talked about at home. Only gets some basic sexual health teaching as part of health in school education syllabus."**

**"Muslim boys who are circumcised perceive that they will not be able to get any sexual 'disease' as they are protected by being circumcised."**

**"There is also a huge condom resistance by men."**

**CULTURAL COMPETENCY TRAINING**

- Many HSPs are not familiar with Middle Eastern and African cultures- especially surrounding customs, holidays, and religious differences. There was an expressed desire for relevant cultural competency training to be available.
- These sessions should also include educating HSPs on the dilemma that these communities face- especially those encountered by women and children and the tensions between wanting to preserve their cultural identity and integrating with mainstream New Zealand society.
- HSPs should also have educational sessions on the health needs and concerns of these populations and how to engage with them.
- There needs to be a better understanding among health services (especially those that deal with a lot of refugee groups) on the cultural differences that exist even within the different African communities.

**"Plunket health providers seem to be more understanding and know how to approach these cultures currently largely due to the increase in knowledge that they have gained in dealing with these**

**communities- also through shared knowledge at team meetings, study days and support from cultural health workers. More knowledge now shared on what to wear when doing home visits with clients from these ethnicities and how to engage with these communities."**

**STOCK TAKE OF SERVICES**

- HSPs expressed a lack of knowledge on the variety of support services that these communities are entitled to or are there to support them.
- Need to have an up to date list of all relevant services that are dedicated to or specialise in addressing health issues/social issues for these communities.

**GREATER COORDINATION OF SERVICES**

- There needs to be greater coordination between support agencies, health service providers and other relevant organisations (e.g. other government agencies).
- It was suggested that having multi-agency regional collaborative services under one roof targeting these populations would be very effective. There appears to be an absent focal point that coordinates the support services that these communities need to be linked with- especially for the women.
- Networking and linking of community support networks with specialised clinicians and nurses such as that done by the national 'African Education Support Network' (where HIV educators were drawn from a range of African community groups and linked in with HIV clinicians and nurses as well as support groups) need to occur.
- Similarly continued education between all these groups are needed- which is lacking at present. It was suggested that the Refugee health provider (based at the Auckland Regional Public Health Unit) could biannually bring together all the providers of the various refugee/migrant health services and provide an opportunity for them all to network and link in on initiatives being undertaken and share knowledge on the work they are doing. They should also provide an updated list on the contact details of all these providers and what they do/offer. This would encourage better sharing of resources, knowledge and linking in between the different provider groups that target these communities.

**APPROPRIATE MENTAL HEALTH SUPPORTS**

- Need to provide better counselling services that understand and takes into consideration refugee backgrounds with counsellors should speak their language. This would create a better relationship between the counsellor and patient and promote healing.

**TARGETED HEALTH EDUCATION SESSIONS**

- Lifestyle and behaviour changes need to have family support in these communities to work. Hence, health education sessions (for conditions such as diabetes and heart disease) need to be provided in the languages spoken by Middle Eastern and African people for entire communities and not just affected patients.
- There is a need for targeted health education and health promotions sessions for these communities on diabetes, cardiovascular disease, screening services and antenatal cares.
- There is also a need for an education programme that gets them prepared for life in New Zealand and the health care system. HSPs commented that currently, many refugees still lack an adequate level of knowledge on these issues. Comments were made that the Mangere Refugee Centre does a good job orientating the refuges to parts of the health services- however there appears to be a lack of support once the refugees leave the centre.

**"The Muslim women's swimming initiative in Mount Roskill seemed to be successful in getting women to do more exercise."**

**PROVIDE GREATER OPPURTUNITIES FOR COMMUNITY DEVELOPMENT**

- Need to improve the employment and educational opportunities for these communities.
- Need more key role models within these ethnic groups.
- There needs to be a central referral point or contact to advice women from these communities on future training or employment/career development opportunities post having children.

Many of these women enquire about how to find employment or retrain after having children and there does not appear to be an obvious referral or starting point to support these women entering the workforce after delivery.

**INCREASE AVAILABILITY OF FACE TO FACE INTERPRETER SERVICES**

- Comments that were made about the telephone interpreter services included:
  - It is good enough most of the times but does not have capture the other roles that they are used to interpreters playing when seeing the patient face to face e.g. advocating for the patient. Also some minor administrative problems where the clinic may be running late and the interpreter is not there were noted.
  - There are barriers to using a telephone interpreter service. Booking a time to use the interpreter during a consultation may be difficult as the timing may be wrong (doctor may run overtime with another patient etc). Quite often patients present unannounced/last minute appointments. Hence pre arranging an interpreter would not work. Also, the receptionist (at a GP practice) who books the appointment does not ask if the patient needs an interpreter. Thus quite often by the time the GP sees the patient, it is too late to ask for interpreter services.
  - One HSP had not heard of the telephone interpreter service. A HSP who did not use any translation services acknowledged that they had limited knowledge on the patients' social circumstances, family life or housing situation compared with other patients due to communication difficulties.
- There appears to be a need to increase the availability of interpreter services- for example, school nurses are not able to access the current interpreter service.

**"Interpreters will often be the 'conduit' for access to the hospital or other health services."**

**INCREASE THE DIVERSITY OF THE HEALTH WORK FORCE**

- Need the health workforce to have more personnel who understand these ethnicities- perhaps via work force development and diversification.
- There needs to be greater flexibility in the health workforce to potentially hire and train some interpreters to also become community/health support workers for these communities.

**PROVIDING SUITABLE RESPITE CARERS**

- There is currently a lack of appropriate carers for respite services. Although respite care facilities are offered, they cater for mainstream New Zealand residents.

**PREGNANCY ISSUES**

- It was noted that women from these communities seem to have high intervention rates in hospital deliveries- why this is so may need to be explored further.
- A lot of these women do not take the recommended vitamins in pregnancy as the government does not subsidies these tablets. Hence there is an unmet need to have adequate nutritional supplements for pregnant women from these communities.
- There needs to be a lot more education and exploration on the birthing experiences of the different cultures in Auckland and what it means to them.
- There needs to be more midwifes who share a common background/language to cater for the needs of these populations.

## *15.6 Other comments*

- Most specialised hospital services felt that there was appropriate primary health referral and use of their services. This includes the Diabetes Services, HIV service and Obstetric and Gynaecology services.
- A HSP commented that it would not be economically viable to provide a stand alone service that just catered for refugee or migrant communities. It was more important and effective to train people within existing services and up-skill them on the health issues or interventions that these populations need.

- There does not appear to be an expressed concern about patients from these communities not attending outpatient appointments in the hospital.
- Most of the patients from these communities seem to have a primary health care identified with good follow up from general practice services.
- Sometimes being the same ethnicity as the client can be a barrier as some clients are reluctant to engage with people who are of the same ethnicity due to concerns about their privacy. Therefore care needs to be taken in order to address this. Health workers have to be careful and sensitive when engaging with clients of the same ethnicity.
- Access to health services largely appears to be influenced by the convenience of getting to these services, especially for women.
- There were no expressed concerns regarding any particular child health issues. Overall HSPs commented that these ethnicities have good uptake of childhood immunisation and breastfeeding.
- HSPs did not express concerns over smoking prevalence or alcohol intake in these communities.

## *15.7 Summary of findings from HSP interviews*

- Key concerns around the health needs of the MELAA population included:
  - Rising prevalence of diabetes and heart disease
  - Concerns regarding PTSD and depression
  - The change in diet and nutrition as well as low exercise levels promoting obesity
  - Rise in the number of refugee families affected by disability
  - Low vitamin D levels
  - Social issues including isolation, poverty and cultural adjustment issues
- Key cultural differences in these communities included:
  - The importance of faith and family
  - The significant differences in gender roles
  - The cultural differences in perceptions of illness and disability
  - The differences between health care in their countries of origin compared with New Zealand
- The main barriers to health care are:
  - Language difficulties
  - Health illiteracy
  - Lack of consultation time
  - Transport to appointments
  - A lack of social supports
  - The cost of health care and treatment
  - The perceived lack of privacy and confidentiality
  - The lack of cultural understanding by HSPs
  - The lack of trust and fear of Western health care models/systems
- The enhancers to health are in these communities are:
  - Having HSPs that understand them i.e. speak the same language/understand their backgrounds and faith
  - The appropriate use of interpreters
  - Having HSPs that use appropriate communication techniques
  - Having targeted services that cater to these communities via a common language or religion
  - Having good community supports and networks
  - Having well linked and coordinated services
  - Engaging with religious leaders and communities
- The main knowledge gaps or areas of unmet needs or service improvements include:
  - Having targeted antenatal education
  - Providing health information in a variety of languages catering for MELAA groups
  - Providing cultural competency training for HSPs
  - Providing a list of all relevant services that MELAA communities are entitled to or can access
  - There is a need for greater coordination of services

- Improved mental health supports that are culturally appropriate
- Providing targeted health education sessions on diabetes and CVD for entire communities
- Providing opportunities for community development
- Increasing the availability of face to face interpreter services
- Increasing the diversity of the work force

# 16 Summary of key findings from quantitative data

## *16.1 Middle Eastern, Latin American and African people-the MELAA group*

- The MELAA population were 1.4% of the total Auckland population in 2006; of the 18,585 people in this group, 10,692 were Middle Eastern, 4,806 were African and 3,087 were Latin American.
- In 2010, PHO enrolment data shows that the MELAA population has a total of 28,637 persons in Auckland (of which there are 14,348 Middle Eastern, 2,915 Latin Americans and 11,374 Africans).
- PHO enrolment data (as a proxy indicator for Auckland MELAA population growth) showed that Latin Americans had the largest average enrolment growth per annum of 13% between 2006 and 2010. The African population had an enrolment growth of 8% and the Middle Eastern population had an enrolment growth of 5%.
- In 2006, almost 80% of people from each MELAA group were born overseas. More than half of the overseas born African and Latin American people had been in New Zealand <5 years. Most overseas born Middle Eastern people had been in New Zealand between 5 to 19 years.
- The MELAA populations had greater mobility in domiciled residence than Europeans, as <20% in each group had been living in the same residence in the 5 years prior to Census.
- The TFR in 2006 for MELAA in New Zealand was slightly higher than European/Other and Asian groups but lower than Maori and Pacific. MELAA women had higher fertility rates (similar to Pacific women) from ages 30 onwards compared with European/Other.

## *16.2 African people*

### Demography

- The largest ethnicities within the African group in Auckland were 'African NFD' (41%), Ethiopian (14%) and Somali (12%). Most lived in Auckland City (49%).
- The African population was a relatively young population with the majority being < 30 years old (60%), and the 0-10 year age band having the greatest proportion of people (24%). Only 1 % of the total population was 65+ years.

### Socioeconomic determinants of health

**Deprivation measure**

- African people had the highest percentage of people living in areas of high deprivation (>50% live in quintiles 4 and 5) and the lowest percentage of people living in quintiles 1 and 2 compared with Latin American, Middle Eastern or European people.

**Housing conditions**

- African people had the lowest percentage of owner occupied homes compared within the MELAA group and with Europeans.
- African people may live in more crowded circumstances compared with all other ethnicities, as they had the largest proportion of people who had ≥ 6 residents per household (22% in Africans versus 6% in Europeans) but the lowest proportion of people who lived in houses with ≥4 bedrooms (24 % in Africans versus 39% in Europeans).
- African people had the largest proportion of people living in a household consisting of 'one parent with children' compared to all other ethnicities.
- Approximately 5% of African people reported no fuels used in heating their dwelling compared with 2% of Europeans.

**Education, Income, Employment**

- Despite having similar levels of secondary school qualifications and lower levels of 'no qualifications' compared with Europeans, African people had a higher unemployment rate.
- More African people were on a benefit compared with all other ethnicities and almost 60% of Africans who were on a benefit were on the unemployment benefit.
- African people had a lower mean annual income than Europeans ($26,300 for African people compared with $38,700 in Europeans). Most Africans (35%) had an annual personal income of <$20,000.

**Other determinants**

- The majority of African people were Christian (65%) and some Muslim (20%).
- African people had the highest proportion of people with no vehicles compared with all other ethnicities (double that of Europeans).
- Most African people (85%) spoke conversational English.

## Risk factors

- African people had the lowest percentage of 'regular smokers' and 'ex-smokers' and the highest proportion of people who have 'never smoked regularly' compared with all other ethnicities. They also had lower hospitalisation rates from alcohol related conditions compared to Others.

## Health outcomes

- The SMR in New Zealand for African people appeared higher than the SMR for Others.
- In New Zealand, African people had a PAM rate (all causes) similar to Others, with coronary disease as the leading cause of death.

## Health services utilisation

**Primary health organisation (PHO) enrolment**

- The African population had the highest enrolled population compared with other ethnicities in 2006. From 2006 to 2010, they had an 8 % average annual increase in enrolled population.
- 23% of African people enrolled with a PHO in the Auckland region had a Community Services Card. This is lower than what would be expected as African people had the highest proportion of people living in high deprivation areas, almost 40% had an annual income ranging from loss to <$20,000 and 20% were on a benefit.

**Clinical preventive services use**

- African women had a much lower unadjusted cervical screening coverage then European women in 2009.
- African women in 2008/09 had the lowest coverage for breast screening within the MELAA group and lower than European. Their coverage rates improved from 2006/07 to 2008/09.

**Emergency department utilisation**

- The rate of ED attendance in the Auckland region was lowest in African people compared with all other ethnicities.

**Mental health and addiction services**

- African people had a lower rate of secondary mental health and addiction services utilisation but a higher percentage of people needing acute inpatient admissions (with no prior contact in preceding 12 months) when seen by mental health services compared with Others.

**Outpatient clinic DNA rates**

- The African population in WDHB had the highest DNA percentage in 2009 compared with other ethnicities. In CMDHB and ADHB, African people had higher DNA percentages than Europeans.

**Pharmaceutical utilisation**

- In 2009, African people 10 to 59 years had the highest cost of dispensed pharmaceuticals compared with all other ethnicities.
- From 70 year onwards they had reimbursement levels below Others. In all ethnicities except African people, reimbursement costs per person increased with age.
- The high reimbursement costs see in the younger African age groups was explained by the dispensing costs associated with HIV retroviral therapy.

**Laboratory utilisation**

- In 2009, African people aged 30+ years had the lowest value of nominal costs claimed per person for laboratory tests in the MELAA group and lower than Others.
- African people may have more difficulties in accessing and utilising laboratory tests compared with other ethnicities.

**Potentially avoidable hospitalisation rates and causes**

- African people had higher PAH rates from all causes than Others.
- The top PAH cause was 'angina and chest pain' admissions, followed by diabetes and pneumonia.

**Ambulatory sensitive hospitalisation rates and causes**

- African people had lower ASH rates than Others and had the lowest rate within the MELAA group.
- The leading causes of ASH in Africans people were admissions for 'angina and chest pain' and diabetes.

**Access to surgical procedures in hospital**

- African people had lower intervention rates than Others for angioplasty, CABG, TKJR and THJR operations but the number of events was small and the estimated rates are likely to be unstable.

## Important conditions

**Cardiovascular disease**

- African people appeared to have a lower prevalence of CVD than Europeans in 2007, but the CIs are wide and overlapping.

**Diabetes**

- In 2007, African people had approximately double the prevalence of diabetes compared with Europeans in Auckland.
- They had a higher prevalence of diabetes than Europeans in each quintile of deprivation.
- African people had markedly a higher prevalence of diabetes than Europeans from age 35 years onward.
- African males and females had higher rates of hospitalisation from diabetes compared with their equivalent Others and the highest within the MELAA group.

**Respiratory diseases**

- African people (women especially) had a higher rate of admission for asthma than their equivalent Others.
- The hospitalisation rate in adults from pneumonia was higher in the African population compared with Others, especially in women.

**Infections**

- African people had a higher proportion of people diagnosed with HIV/AIDS than the other MELAA groups in the Northern region.
- African women had the highest proportion of women diagnosed with HIV/AIDS in the Northern region.
- The hospitalisation rate from tuberculosis was highest in the African population compared with Others and within the MELAA group.
- African females had a higher hospitalisation rate from kidney and urine infections than female Others.

## Child health

- In New Zealand, African children may have a higher SMR compared with Others.
- The PAH rates in children from all causes was higher in African children compared with Others.
- Asthma was the main cause of PAH, followed by dental conditions.
    - African children had the highest rate of hospitalisation for asthma, pneumonia and bronchiolitis compared with the other MELAA ethnicities and Others.
    - They also had higher hospitalisation rates than Others for dental conditions and gastroenteritis.
- At the 6 month mark only 23% of African babies were exclusively or fully breastfed, which was less than in Others (27%) and below the recommended 2007/08 national health target of 27%.
- In children <5 years of age and in Year 8, there were more African children with caries than in Others.

## Women's health

- African women appeared to have a lower percentage of assisted deliveries but a slightly higher percentage of Caesarean section deliveries compared with Others.
- Compared with Others, African women had higher rates of TOPs in teenagers as well as in women aged 20-29 years.
- African women had a similar percentage of teenage deliveries to Others.

- The Female Genital Mutilation (FGM) 2008 Health Care Survey surveyed approximately 23% of the estimated adult female Somali population in Auckland and 97% of them had undergone FGM, of which 58% reported perceived complications.

## *16.3 Latin American people*

### Demography

- The largest ethnicities within the Latin American group in Auckland were 'Latin American NFD' (39%), Brazilian (19%) and Chilean (14%). Most lived in Auckland City (44%).
- 85% of the total Latin American population were <45 years of age with the 20-34 year olds making up 40%.
- The proportion of Latin Americans aged ≥60 years was small (3%).

### Socioeconomic determinants of health

**Deprivation measure**

- Latin American people had a relatively even distribution of people living in all deprivation quintiles.
- They had a greater proportion of people living in higher deprivation compared with Europeans.
- They had the greatest proportion of people in Quintile 1 compared within the MELAA group.

**Housing conditions**

- Latin American people had a lower percentage (28%) of owner occupied homes compared with Europeans (56%).
- Latin American people had a greater proportion of 5 to 6 or more usual residents in a household compared with Europeans but had a lower proportion of people who lived in a household with 4 or more bedrooms.
- Approximately 7% of Latin American people reported no fuels used in heating their dwelling compared with 2% of Europeans.

**Education, Income, Employment**

- Latin Americans had the lowest proportion of people with no qualifications (6%) and the largest proportion of people with post school qualifications (50%) compared with all other ethnicities. Despite this, they had a higher unemployment rate than Europeans (but had the lowest rate within the MELAA group).
- They also had a lower mean income than Europeans (similar to African people). Most Latin American (30%) had an annual personal income of <$20,000.
- Latin Americans had a low proportion of people on a benefit, similar to Europeans (approximately 6%) and the lowest within the MELAA group.

**Other determinants**

- The majority of Latin American people were Christian (70%) and most were Catholic.
- Most Latin American (86%) people spoke English.
- 7% of Latin Americans had no access to a car compared with 4% of Europeans.

### Risk factors

- Latin American people had a lower percentage of people who were 'ex-smokers' and 'regular smokers' but a higher percentage of 'never smoked regularly' compared with Europeans.

### Health outcomes

- The SMR in New Zealand for Latin Americans was higher than the rate for Others.
- Latin American people had the lowest rate of PAM from all causes compared with all other ethnicities

### Health services utilisation

**Primary health organisation (PHO) enrolment**

- The Latin American population in 2006 only had 51% enrolled with a PHO. However, from 2006 to 2010, Latin American people had the greatest average annual increase in enrolment (13%).

- Latin American people had the lowest percentage with a CSC (13%) compared with all ethnicities. This may be because they have the low proportion of people on any type of benefit, on a low income or that they may not be permanent residents/refugees in New Zealand.

**Clinical preventive services use**

- Latin American women had lower unadjusted cervical screening coverage in 2009 compared with Europeans, but the highest within the MELAA group.
- Latin American women had the highest percentage of uptake of breast screening compared with all other ethnicities (including European).

**Emergency department utilisation**

- ED utilisation was highest in Latin Americans compared with all other ethnicities.

**Mental health and addiction services**

- Latin American people appeared to have the highest rate of use of mental health and addiction services in Auckland compared with all other ethnicities.

**Outpatient clinic DNA rates**

- The DNA percentage for Latin Americans was higher than Europeans in all three DHBs.

**Pharmaceutical utilisation**

- Latin Americans appeared to have had a higher reimbursement value per person compared with Others from age 40 years upwards. The reimbursement value increased with age.
- Latin Americans had a higher proportion of people in the 20 to 49 years age group contributing to the overall reimbursements claimed within the ethnicity compared with equivalent Others.

**Laboratory utilisation**

- Latin Americans overall had higher costs claimed per person than Others in each age group.
- The proportion of nominal laboratory costs claimed by each age group within the Latin American ethnicity was greatest in the 15 to 44 years age group. This contrasts with Others where the greatest proportion of costs claimed was in the older age groups (45 to 74 years).

**Potentially avoidable hospitalisation rates and causes**

- Latin American people had higher PAH rates from all causes than Others with admissions from 'angina and chest pain' and 'kidney or urine infection' being the main causes.

**Ambulatory sensitive hospitalisation rates and causes**

- Latin Americans had lower ASH admission rates than Others with the leading causes being admissions for 'angina and chest pain' and 'kidney or urine infection'.

**Access to surgical procedures in hospital**

- Latin American people had lower intervention rates than Others for angioplasty, CABG,TKJR and cataract operations but the total number of events for each procedure was <10 meaning the rates are unstable. Similarly although they appeared to have higher intervention rates than Others for THJR, prostatectomies and hysterectomies, the numbers are extremely small and the estimated rates are unstable. Latin Americans did however appear to have the highest intervention rate compared with all other ethnicities for cholecystectomies (approximately three fold the rate for Others). It is unclear why they may have such a high rate.

## Important conditions

**Cardiovascular disease**

- Latin Americans had a statistically significant lower prevalence of CVD than Europeans in 2007.
- Unlike all other ethnicities, the prevalence of CVD decreased with deprivation among Latin Americans. It is unclear why this might be so.
- Latin American men appear to have higher hospitalisation rates than all other men for 'angina and chest pain'.

**Diabetes**

- Latin Americans had approximately double the prevalence of diabetes of Europeans in Auckland.
- Latin American people had a markedly higher prevalence of diabetes than Europeans from age 35 years onward.
- Latin American men appeared to have a higher hospitalisation rate for diabetes than Others, but the total number of events was small.

**Respiratory diseases**

- Latin Americans had higher rates of hospitalisation for asthma than Others (but the total number of events was small).
- Latin American females had the highest rate of hospitalisations from pneumonia compared with all other ethnicities, but there were only 9 events.

**Infections**

- Latin Americans only contributed to 2% of the total number of diagnosed HIV cases in the Northern region from 1996 to 2009.
- Latin American females had the highest rate of hospitalisations for tuberculosis compared with all other ethnicities but only had 5 events in total.
- Latin Americans had the highest rate of hospitalisations for kidney and urine infections (especially in females) compared with all other ethnicities. The reason for this is unclear.

**Mental health conditions**

- Latin Americans had a lower mortality rate from suicide in adults than Others ( but there were only 3 events).

## Child health

- Latin American children appeared to have a higher mortality rate than Others ( but there were only 4 events).
- Latin American children had the lowest proportion of low birth weight babies compared with all other ethnicities.
- The PAH rate in children from all causes was higher in Latin American children compared with Others, with gastroenteritis as the main cause, followed by ENT conditions.
    - Latin American children had the highest hospitalisation rate for gastroenteritis.
    - The rates of hospitalisations for asthma, pneumonia and bronchiolitis appeared higher in Latin Americans than Others.
- At the 6 week mark, the percentage of Latin American babies that were exclusively or fully breastfed was less than the recommended MOH target but the target was achieved at the 3 month and 6 month mark.
- Latin American children aged 5 years had a higher percentage of children with caries than Others. The mean number decayed, missing or filled teeth in Year 8 Latin American children was lower than Others and the lowest within the MELAA group.

## Women's health

- Latin American women had a higher percentage of assisted deliveries and Caesarean sections compared with Others.
- Latin American women had a lower percentage of women affected by pre-eclampsia or diabetes in pregnancy compared with Others.
- In women aged 15-44 years, Latin Americans appeared to have a hospitalisation rate almost three times the rate of Others for ectopic pregnancies (but the rate may be inflated due to the small population size).
- Latin American women appeared to have higher rates of termination of pregnancies in teenagers and in women aged 20-29 years compared with Others. In women aged ≥30 years, Latin Americans had the highest rate of terminations of pregnancy compared with all other ethnicities (again, the rate may be inflated due to the small population size).
- Latin American women had a similar percentage of teenage deliveries to Others, but may have the highest rate of teenage deliveries than all other ethnicities (but the total number of events was only 9).
- Latin American women had the highest hospitalisation rate for sexually transmitted infections compared with all other ethnicities.

## *16.4 Middle Eastern People*

## Demography

- The largest ethnicities within the Middle Eastern ethnic group in Auckland were Iraqi (22%), Iranian (21%) and Arab (16%). Most lived in Manukau City (30%), Auckland City (28%) and North Shore City (23%).

- The Middle Eastern population mainly consisted of people younger than 49 years of age (85%). People aged 65+ years made up less than 4% of the total population and there was a large proportion of children. There were also more men than women in all age bands.

## Socioeconomic determinants of health

**Deprivation measure**

- Middle Eastern people had a more even distribution of people living in all deprivation quintiles compared with Europeans and Africans. They had a greater proportion of people in Quintiles 4 and 5 than Europeans.

**Housing conditions**

- Middle Eastern people had a lower percentage of people living in owner occupied homes than Europeans.
- Middle Eastern people had a higher proportion of people living in a household with ≥ 4 individuals (67% compared with 42%) but a lower proportion of people living in houses with ≥ 3 bedrooms compared with Europeans.
- A household which consisted of a 'couple with children' was the most common household composition for all ethnicities with Middle Eastern people having the highest proportion (62%).

**Education, Income, Employment**

- Despite Middle Eastern having a similar proportion of people with post school qualifications and a higher proportion of people with secondary school qualifications to Europeans, they had a higher unemployment rate (almost fourfold higher).
- Most Middle Eastern people (44%) had an annual personal income of <$20,000. Middle Eastern people had the lowest mean income ($23,400).
- Middle Eastern people (25%) had the highest percentage of people a benefit compared with all other ethnicities. 55% of them were on the unemployment benefit and 40% were on a sickness benefit.

**Other determinants**

- The majority of Middle Eastern people were Muslim (51%), followed by Christian (28%).
- Most Middle Eastern (84%) people spoke English and were multilingual. 11% spoke no English and only other languages compared with <1% in Europeans.

## Risk factors

- Middle Eastern people and Europeans had similar proportions of regular smokers.
- Middle Eastern people had the lowest hospitalisation rate from alcohol related conditions compared with all other ethnicities.

## Health outcomes

- The SMR in New Zealand for Middle Eastern people appeared higher than the rate for Others (and was the highest within the MELAA group).
- In New Zealand, Middle Eastern people had a similar PAM rate from all causes to Others, with coronary disease being the leading cause.

## Health services utilisation

**Primary health utilisation**

- Primary health organisation (PHO) enrolment was high for Middle Eastern people. Middle Eastern people also had the highest proportion of people with a CSC (42%), compared with all other ethnicities.

**Oral Health**

- Adult Middle Eastern people had the highest rate of hospitalisations for dental conditions compared with all other ethnicities.

**Clinical preventive services use**

- The unadjusted cervical screening programme coverage percentage for eligible women in 2009 was lowest for Middle Eastern women compared with all other ethnicities (less than half the percentage of coverage in European women).

- In 2008/09, Middle Eastern women had a slightly higher percentage of women who received a mammogram compared with European women, but this was still below the recommended target.

**Emergency department utilisation**

- The age standardised rate of ED attendance for Middle Eastern people in the Auckland region was higher compared with Others.

**Mental health and addiction services**

- Middle Eastern people had lower rates of use of secondary mental health and addiction services compared with Others. However they had the highest percentage of people seen needing acute inpatient admission (with no previous contact with mental health services for the preceding 12 months) compared with all other ethnicities - almost double the percentage of Others.

**Outpatient clinic DNA rates**

- Overall, Middle Eastern people only had a slightly higher percentage of DNAs compared with Europeans in all three DHBs.

**Pharmaceutical utilisation**

- Middle Eastern people had similar costs per person for reimbursed pharmaceuticals as Others in their younger years, but became much higher than Others from age 60 + years.
- The greatest proportion of pharmaceutical spend within the Middle Eastern group occurred in the 30 to 49 years age band, which was much higher than Others. They had a much smaller proportion of the reimbursed value contributed to by the older age groups compared with Others.

**Laboratory utilisation**

- For laboratory nominal costs claimed per person, Middle Eastern people had similar trends in the different age groups as that seen in Others.
- The proportion of laboratory nominal costs in Middle Eastern people was highest in the 30-44 year age group. The proportion contributed by people aged 60+ years was lower in Middle Eastern people compared with Others.

**Potentially avoidable hospitalisation rates and causes**

- Middle Eastern people had higher PAH rates from all causes than Others with top PAH causes being 'angina and chest pain' and 'diabetes' admissions.

**Ambulatory sensitive hospitalisation rates and causes**

- Middle Eastern people had a higher rate of ASH than Others with the leading causes being admissions for 'angina and chest pain' and 'kidney or urine infections'.

**Access to surgical procedures in hospital**

- Middle Eastern people appeared to have the highest intervention rate compared with all other ethnicities (including Maori and Pacific) for angioplasty and CABG operations. They also had higher intervention rates than Others for TKJRs, cataract operations, prostatectomies and hysterectomies.

## Important conditions

**Cardiovascular disease**

- Middle Eastern people had a higher estimated prevalence of CVD than Europeans and Pacific people in 2007 (but the CI's were wide and overlapping).
- The prevalence of CVD in Middle Eastern people increased with deprivation.
- Middle Eastern males and females appeared to have higher rates of hospitalisations for angina and chest pain than Others, Maori and Pacific.
- Middle Eastern men had a higher rate of hospitalisation from myocardial infarction than Others.

**Diabetes**

- Middle Eastern people had a statistically significant higher prevalence of diabetes than Europeans in Auckland. They appeared to have the highest prevalence within the MELAA group ( but the CIs were overlapping).
- The prevalence of diabetes increased with deprivation and remained higher than Europeans.
- Both Middle Eastern men and women had higher rates of hospitalisations from diabetes than their counterparts in Others.

**Respiratory diseases**

- Middle Eastern males and females had higher PAH rates from asthma compared with their equivalent Others.
- Middle Eastern females had higher PAH rates from pneumonia compared with Others.

**Infections**

- Middle Eastern women had a higher PAH rate from kidney and urine infections than female Others.

**Mental health conditions**

- Middle Eastern people appeared to have a lower mortality rate from suicide in adults compared with Others.

## Child health

- In New Zealand, Middle Eastern children appeared to have a higher SMR than Others (but there were only 11 events).
- The PAH rates in children from all causes was higher in Middle Eastern children compared with Others and highest within the MELAA group. Dental conditions followed by gastroenteritis were the main causes of PAH.
    - Middle Eastern children had a much higher hospitalisation rate for dental conditions compared with Others (more than twice the rate).
    - Middle Eastern children had a much higher hospitalisation rate from gastroenteritis than Others.
    - The rates of hospitalisations due to asthma, pneumonia and bronchiolitis were higher in Middle Eastern children compared with Others.
- The percentages of Middle Eastern children at the 6 week, 3 month and 6 month mark who were exclusively or fully breastfed were lower than Others.
- In children aged 5 years and Year 8, Middle Eastern children had a greater proportion of children with caries than Others. Middle Eastern Year 8 children also had a higher mean number of decayed, missing and filled teeth compared with Others.

## Women's health

- Within the MELAA group, Middle Eastern women had the highest number of live births followed by African and Latin American women.
- Middle Eastern mothers had a higher percentage of deliveries complicated by diabetes compared with Others and Maori, but lower than the percentage for Pacific people.
- Middle Eastern women ≥30 years had a slightly higher rate of TOP compared with Others.

# 17 Recommendations

In each phase of planning, implementation and evaluation of health related activities, achieving health equity between the various ethnic groups, gender groups and age groups should be a guiding principle. The three Auckland DHBs are responsible for responding to some of the key findings from this HNA and the following lists some recommendations on what needs to occur:

**Initial dissemination of report to:**

- Planning and funding teams at each DHB as well as NDSA.
- Key community organisation that represent the various MELAA communities.
- Health service providers (HSP) that have a high level of engagement with the MELAA communities as well as HSP where there was an unmet need to improve access and engagement with these communities
    - E.g. GP practices in areas where there are high densities of MELAA populations, refugee health services, oral health service providers, school nurses, midwifery services, breast and cervical screening services, sexual health and family planning services, diabetes and cardiology services.
- University research groups that are interested in diabetes, CVD, or migrant and refugee health.
- Non-governmental organisations (NGOs) such as Diabetes Auckland, National Heart Foundation and NZ AIDS Foundation.

**Interventions needed by way of health service provision:**

- Supporting HSP to meet the needs of MELAA patients:
    - Improve access to primary care services by working with primary care providers on ways to :
        - reduce/subsidise prescription
        - decrease consultation costs for members of these communities
        - provide longer 'first' consultation times.
    - Increase and promote cultural competency education sessions.
    - General practitioners need to be supported on ways to screen and treat patients with mental health conditions in a culturally sensitive way.
- Providing targeted services for MELAA ethnicities within mainstream health services, including raising community awareness, education and health promotion, especially around:
    - CVD and diabetes prevention, screening and self management (especially for Middle Eastern people). This should include setting targets on reporting rates of diabetes for Middle Eastern and African people on 'Get Checked'.
    - The use of cervical and breast screening services (especially for African and Middle Eastern people).
    - Antenatal education classes (especially for African and Middle Eastern people).
    - Family planning and contraception education (especially for African and Latin American people).
    - Community oral health services (especially for Middle Eastern people)
- Improving interpreter services
    - Improve access by widening the type of HSP that can use free interpreter services.
    - Increase the availability of face- to- face interpreter services.
    - Ensure culturally appropriate interpretive services are available.
    - Increase the awareness of the benefits of using interpreters in primary care to HSPs.
- Improve regional collaboration and streamlining of services:
    - Having an updated list of all MELAA services that is made available to community organisations and HSP.
    - Having greater consistency on services available within the region.
- Improve mental health supports that are culturally appropriate
    - Secondary mental health services need to be more responsive to the needs of these communities.
    - Attempt to destigmatise mental illness via radio or television messages.

- Promote community empowerment by improving the upstream determinants of health:
  - Increase access to English as a second language (ESOL) classes
  - Improve health literacy by providing health information in a variety of languages and providing more knowledge on the New Zealand health care system and preventive services such as CVD, diabetes, breast and cervical screening.
  - Create employment opportunities: targeted health sector scholarships or mentoring for people from these communities.
  - Increase inter-sectoral and regional collaboration, especially around housing issues such as household crowding and potential indoor air quality.

**Further research on MELAA health needs should consider:**

- A time series report should be conducted 5 years from now (2015) to determine trends in health outcomes and utilisation of services.
- Population projections and growth of the MELAA population should be estimated once the results from the next Census are available.
- Researching the results from the numerous New Zealand Health Surveys (from 1992/93, 1996/97, 2002/03 and 2006/07) for the MELAA group should be considered to provide more knowledge on the MELAA population through time.
- Research need to be done on CVD and diabetes modifiable risk factors that are pertinent for these communities.
- Ways to improve ethnicity coding for the MELAA groups should be explored, especially for Zimbabweans and South Africans who identify as 'African' not 'European'.
- Research need to be done on CVD and diabetes modifiable risk factors that are pertinent for the Middle Eastern and African communities. The effect of forced migration and the health differences between the various generations of MELAA communities in New Zealand is still poorly understood.
- Need to find a way of capturing the prevalence of the different types of mental health conditions as well as substance abuse in these communities as this data is not currently available.
- Further reach areas may look at the following:
  - Why are African and Latin American women having higher rates of assisted deliveries and caesarean sections?
  - Why do Latin Americans appear to have the highest rate of intervention for cholecystectomies?
  - What are the reasons behind Middle Eastern, Latin American and African children and adults having higher rates of hospitalisations from respiratory disease (asthma, pneumonia and bronchiolitis) compared with Others?
  - Why do women from the MELAA ethnicities appear to have higher hospitalisation rates from kidney and urine infections compared with Others?
  - Should Middle Eastern and African people be targeted as high risk groups for developing CVD and Diabetes and should the New Zealand Guidelines on CVD and Diabetes assessment and management be amended to recommend a lower age threshold in screening them for these diseases?

# Appendix 1: Ethnicity Classification and Codes

**Table 63: Ethnicity codes for level 4 ethnicities included in the MELAA grouping(5)**

| Middle Eastern | | Latin American | | African | |
|---|---|---|---|---|---|
| **Code** | **Ethnicity** | **Code** | **Ethnicity** | **Code** | **Ethnicity** |
| 51100 | Middle Eastern nfd | 52100 | Latin American/Hispanic nfd | 53100 | African nfd |
| 51111 | Algerian | 52111 | Argentinean | 53112 | Creole (US) |
| 51112 | Arab | 52112 | Bolivian | 53113 | Jamaican |
| 51113 | Assyrian | 52113 | Brazilian | 53114 | Kenyan |
| 51114 | Egyptian | 52114 | Chilean | 53115 | Nigerian |
| 51115 | Iranian/Persian | 52115 | Colombian | 53116 | African American |
| 51116 | Iraqi | 52116 | Costa Rican | 53117 | Ugandan |
| 51117 | Israeli/Jewish/Hebrew | 52117 | (Creole) Latin American | 53118 | West Indian/Caribbean |
| 51118 | Jordanian | 52118 | Ecuadorian | 53119 | Somali |
| 51119 | Kurd | 52119 | Guatemalan | 53120 | Eritrean |
| 51120 | Lebanese | 52120 | Guyanese | 53121 | Ethiopian |
| 51121 | Libyan | 52121 | Honduran | 53122 | Ghanaian |
| 51122 | Moroccan | 52122 | Malvinian (Spanish-speaking Falkland Islander) | 53199 | Other African nec |
| 51123 | Omani | 52123 | Mexican | | |
| 51124 | Palestinian | 52124 | Nicaraguan | | |
| 51125 | Syrian | 52125 | Panamanian | | |
| 51126 | Tunisian | 52126 | Paraguayan | | |
| 51127 | Turkish (inc Turkish Cypriot) | 52127 | Peruvian | | |
| 51128 | Yemeni | 52128 | Puerto Rican | | |
| 51199 | Middle Eastern nec | 52129 | Uruguayan | | |
| | | 52130 | Venezuelan | | |
| | | 52199 | Latin American/ Hispanic nec | | |

Nfd=not further defined
Nec= not elsewhere classified

# Appendix 2: Prioritisation for Level 2 ethnicity

**Table 64: The standard MOH prioritisation process for Level 2 ethnicity groups, 2009(5)**

| Ethnic Group priority | Ethnic group code | Ethnic group code description |
|---|---|---|
| 1 | 21 | Maori |
| 2 | 35 | Tokelauan |
| 3 | 36 | Fijian |
| 4 | 34 | Niuean |
| 5 | 33 | Tongan |
| 6 | 32 | Cook Island Maori |
| 7 | 31 | Samoan |
| 8 | 37 | Other Pacific People |
| 9 | 30 | Pacific People NFD |
| 10 | 41 | Southeast Asian |
| 11 | 43 | Indian |
| 12 | 42 | Chinese |
| 13 | 44 | Other Asian |
| 14 | 40 | Asian NFD |
| 15 | 52 | Latin American / Hispanic |
| 16 | 53 | African (or cultural group of African origin) |
| 17 | 51 | Middle Eastern |
| 18 | 61 | Other Ethnicity |
| 19 | 54 | Other |
| 20 | 12 | Other European |
| 21 | 10 | European NFD |
| 22 | 11 | New Zealand European |
| 94 | 94 | Don't know |
| 95 | 95 | Refused to answer |
| 97 | 97 | Response Unidentifiable |
| 99 | 99 | Not stated |

**Table 65: The customised prioritisation process used in this HNA at Level 2 ethnicity**

| Ethnic Group priority | Ethnic Group code | Ethnic Group code description |
|---|---|---|
| 1 | 53 | African |
| 2 | 52 | Latin American / Hispanic |
| 3 | 51 | Middle Eastern |
| 4 | 21 | NZ Maori |
| 5 | 35 | Tokelauan |
| 6 | 36 | Fijian |
| 7 | 34 | Niuean |
| 8 | 33 | Tongan |
| 9 | 32 | Cook Island Maori |
| 10 | 31 | Samoan |
| 11 | 37 | Other Pacific Island |
| 12 | 30 | Pacific Island not further defined |
| 13 | 41 | Southeast Asian |
| 14 | 43 | Indian |
| 15 | 42 | Chinese |
| 16 | 44 | Other Asian |
| 17 | 40 | Asian not further defined |
| 18 | 54 | Other |
| 19 | 12 | Other European |
| 20 | 10 | European nor further defined |
| 21 | 11 | New Zealand European |
| 22 | 99 | Not stated |

# Appendix 3: Distribution of Level 4 ethnicity subgroups for MELAA within each territorial authority in the Auckland region

## Middle Eastern

| Ethnic Groups | Data | Auckland City | Franklin District | Manukau City | Papakura District | North Shore City | Rodney District | Waitakere City | Total Auckland region |
|---|---|---|---|---|---|---|---|---|---|
| Middle Eastern nfd | Population size | 378 | 0 | 366 | 21 | 336 | 3 | 147 | 1251 |
| | % within A. region | 30.2% | 0.0% | 29.3% | 1.7% | 26.9% | 0.2% | 11.8% | 100.0% |
| Algerian | Population size | 24 | 0 | 6 | 3 | 12 | 0 | 9 | 54 |
| | % within A. region | 44.4% | 0.0% | 11.1% | 5.6% | 22.2% | 0.0% | 16.7% | 100.0% |
| Arab | Population size | 504 | 15 | 453 | 21 | 528 | 12 | 168 | 1701 |
| | % within A. region | 29.6% | 0.9% | 26.6% | 1.2% | 31.0% | 0.7% | 9.9% | 100.0% |
| Assyrian | Population size | 9 | 3 | 630 | 15 | 12 | 0 | 15 | 684 |
| | % within A. region | 1.3% | 0.4% | 92.1% | 2.2% | 1.8% | 0.0% | 2.2% | 100.0% |
| Egyptian | Population size | 132 | 3 | 69 | 3 | 237 | 6 | 36 | 486 |
| | % within A. region | 27.2% | 0.6% | 14.2% | 0.6% | 48.8% | 1.23% | 7.4% | 100.0% |
| Iranian/ Persian | Population size | 930 | 6 | 288 | 45 | 438 | 24 | 489 | 2220 |
| | % within A. region | 41.9% | 0.3% | 13.0% | 2.0% | 19.7% | 1.1% | 22.0% | 100.0% |
| Iraqi | Population size | 279 | 0 | 1140 | 63 | 627 | 0 | 216 | 2325 |
| | % within A. region | 12.0% | 0.0% | 49.0% | 2.7% | 27.1% | 0.0% | 9.3% | 100.0% |
| Israeli/ Jewish | Population size | 336 | 12 | 60 | 9 | 111 | 45 | 72 | 645 |
| | % within A. region | 52.1% | 1.9% | 9.3% | 1.4% | 17.2% | 7.0% | 11.2% | 100.0% |
| Jordanian | Population size | 27 | 0 | 12 | 0 | 6 | 0 | 30 | 75 |
| | % within A. region | 36.0% | 0.0% | 16.0% | 0.0% | 8.0% | 0.0% | 40.0% | 1000% |
| Kurd | Population size | 42 | 0 | 114 | 78 | 93 | 0 | 153 | 480 |
| | % within A. region | 8.8% | 0.0% | 23.8% | 16.3% | 19.4% | 0.0% | 31.9% | 100.0% |
| Lebanese | Population size | 168 | 12 | 99 | 27 | 42 | 12 | 63 | 423 |
| | % within A. region | 39.7% | 2.8% | 23.4% | 6.4% | 9.9% | 2.8% | 14.9% | 100.0% |
| Libyan | Population size | 6 | 0 | 0 | 0 | 3 | 0 | 0 | 9 |
| | % within A. region | 66.7% | 0.0% | 0.0% | 0.0% | 33.3% | 0.00% | 0.0% | 100.0% |
| Moroccan | Population size | 6 | 0 | 3 | 3 | 6 | 3 | 18 | 39 |
| | % within A. region | 15.38% | 0.00% | 7.69% | 7.69% | 15.38% | 7.69% | 46.15% | 100.0% |
| Omani | Population size | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 6 |
| | % within A. region | 50.0% | 0.0% | 0.0% | 0.0% | 50.0% | 0.0% | 0.0% | 100.0% |
| Palestinian | Population size | 12 | 0 | 9 | 0 | 12 | 0 | 27 | 60 |
| | % within A. region | 20.0% | 0.0% | 15.0% | 0.0% | 20.0% | 0.0% | 45.0% | 100.0% |
| Syrian | Population size | 54 | 0 | 42 | 3 | 12 | 0 | 6 | 117 |
| | % within A. region | 46.2% | 0.0% | 35.9% | 2.6% | 10.3% | 0.0% | 5.1% | 100.0% |
| Tunisian | Population size | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| | % within A. region | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Turkish | Population size | 168 | 0 | 24 | 3 | 72 | 0 | 39 | 306 |
| | % within A. region | 54.9% | 0.0% | 7.8% | 1.0% | 23.5% | 0.0% | 12.8% | 100.0% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Yemen | Population size | 3 | 0 | 3 | 0 | 3 | 0 | 0 | 9 |
| | % within A. region | 33.3% | 0.0% | 33.3% | 0.0% | 33.3% | 0.0% | 0.0% | 100.0% |
| Middle Eastern nec | Population size | 21 | 0 | 12 | 0 | 15 | 0 | 15 | 63 |
| | % within A. region | 33.3% | 0.0% | 19.1% | 0.0% | 23.8% | 0.0% | 23.8% | 100.0% |
| Total number of M. Eastern people | | 3114 | 51 | 3330 | 294 | 2568 | 105 | 1503 | 10965 |
| % of M. Eastern people within A. region | | 28.4% | 0.5% | 30.4% | 2.68% | 23.4% | 1.0% | 13.7% | 100.0% |

## Latin American

| Ethnic Groups | Data | Auckland City | Franklin District | Manukau City | Papakura District | North Shore City | Rodney District | Waitakere City | Total Auckland region |
|---|---|---|---|---|---|---|---|---|---|
| Argentinean | Population size | 120 | 0 | 30 | 9 | 36 | 9 | 12 | 216 |
| | % within A. region | 55.56% | 0.00% | 13.89% | 4.17% | 16.67% | 4.17% | 5.56% | 100.00% |
| Bolivian | Population size | 15 | 0 | 3 | 0 | 6 | 0 | 12 | 36 |
| | % within A. region | 41.67% | 0.00% | 8.33% | 0.00% | 16.67% | 0.00% | 33.33% | 100.00% |
| Brazilian | Population size | 345 | 6 | 39 | 9 | 93 | 27 | 60 | 579 |
| | % within A. region | 59.59% | 1.04% | 6.74% | 1.55% | 16.06% | 4.66% | 10.36% | 100.00% |
| Chilean | Population size | 138 | 6 | 84 | 21 | 48 | 15 | 126 | 438 |
| | % within A. region | 31.51% | 1.37% | 19.18% | 4.79% | 10.96% | 3.42% | 28.77% | 100.00% |
| Colombian | Population size | 63 | 0 | 15 | 0 | 30 | 0 | 12 | 120 |
| | % within A. region | 52.50% | 0.00% | 12.50% | 0.00% | 25.00% | 0.00% | 10.00% | 100.00% |
| Costa Rican | Population size | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 6 |
| | % within A. region | 0.00% | 0.00% | 50.00% | 0.00% | 50.00% | 0.00% | 0.00% | 100.00% |
| Ecuadorian | Population size | 3 | 0 | 3 | 0 | 3 | 0 | 0 | 9 |
| | % within A. region | 33.33% | 0.00% | 33.33% | 0.00% | 33.33% | 0.00% | 0.00% | 100.00% |
| Guatemalan | Population size | 6 | 0 | 0 | 0 | 0 | 0 | 3 | 9 |
| | % within A. region | 66.67% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 33.33% | 100.00% |
| Guyanese | Population size | 0 | 0 | 3 | 0 | 6 | 3 | 0 | 12 |
| | % within A. region | 0.00% | 0.00% | 25.00% | 0.00% | 50.00% | 25.00% | 0.00% | 100.00% |
| Honduran | Population size | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 9 |
| | % within A. region | 0.00% | 0.00% | 33.33% | 0.00% | 0.00% | 33.33% | 33.33% | 100.00% |
| Latin American Creole | Population size | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % within A. region | 0.00% | #DIV/0! | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Latin American nec | Population size | 15 | 0 | 9 | 0 | 3 | 0 | 12 | 39 |
| | % within A. region | 38.46% | 0.00% | 23.08% | 0.00% | 7.69% | 0.00% | 30.77% | 100.00% |
| Latin American nfd | Population size | 486 | 15 | 240 | 27 | 207 | 48 | 174 | 1197 |
| | % within A. region | 40.60% | 1.25% | 20.05% | 2.26% | 17.29% | 4.01% | 14.54% | 100.00% |
| Malvinian | Population | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | size | | | | | | | | |
| | % within A. region | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Mexican | Population size | 63 | 3 | 36 | 3 | 36 | 21 | 12 | 174 |
| | % within A. region | 36.21% | 1.72% | 20.69% | 1.72% | 20.69% | 12.07% | 6.90% | 100.00% |
| Nicaraguan | Population size | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % within A. region | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Panamanian | Population size | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % within A. region | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Paraguayan | Population size | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % within A. region | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Peruvian | Population size | 81 | 3 | 45 | 6 | 30 | 6 | 21 | 192 |
| | % within A. region | 42.19% | 1.56% | 23.44% | 3.13% | 15.63% | 3.13% | 10.94% | 100.00% |
| Puerto Rican | Population size | 12 | 0 | 0 | 3 | 3 | 3 | 6 | 27 |
| | % within A. region | 44.44% | 0.00% | 0.00% | 11.11% | 11.11% | 11.11% | 22.22% | 100.00% |
| Uruguayan | Population size | 9 | 0 | 3 | 3 | 6 | 0 | 3 | 24 |
| | % within A. region | 37.50% | 0.00% | 12.50% | 12.50% | 25.00% | 0.00% | 12.50% | 100.00% |
| Venezuelan | Population size | 9 | 0 | 0 | 0 | 3 | 3 | 0 | 15 |
| | % within A. region | 60.00% | 0.00% | 0.00% | 0.00% | 20.00% | 20.00% | 0.00% | 100.00% |
| Total number of L. Americans | | 1365 | 33 | 516 | 81 | 513 | 138 | 456 | 3102 |
| % of L. Americans within A. region | | 44.00% | 1.06% | 16.63% | 2.61% | 16.54% | 4.45% | 14.70% | 100.00% |

## African

| Ethnic Groups | Data | Auckland City | Franklin District | Manukau City | North Shore City | Papakura District | Rodney District | Waitakere City | Total Auckland region |
|---|---|---|---|---|---|---|---|---|---|
| African American | Population size | 48 | 3 | 33 | 27 | 3 | 9 | 36 | 159 |
| | % within A. region | 30.19% | 1.89% | 20.75% | 16.98% | 1.89% | 5.66% | 22.64% | 100.00% |
| African nec | Population size | 174 | 0 | 102 | 108 | 9 | 3 | 81 | 477 |
| | % within A. region | 36.48% | 0.00% | 21.38% | 22.64% | 1.89% | 0.63% | 16.98% | 100.00% |
| African nfd | Population size | 756 | 24 | 483 | 285 | 78 | 18 | 342 | 1986 |
| | % within A. region | 38.07% | 1.21% | 24.32% | 14.35% | 3.93% | 0.91% | 17.22% | 100.00% |
| Eritrean | Population size | 75 | 0 | 0 | 0 | 0 | 0 | 24 | 99 |
| | % within A. region | 75.76% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 24.24% | 100.00% |
| Ethiopian | Population size | 546 | 0 | 15 | 18 | 3 | 0 | 90 | 672 |
| | % within A. region | 81.25% | 0.00% | 2.23% | 2.68% | 0.45% | 0.00% | 13.39% | 100.00% |
| Ghanaian | Population size | 78 | 0 | 24 | 12 | 0 | 3 | 57 | 174 |
| | % within A. region | 44.83% | 0.00% | 13.79% | 6.90% | 0.00% | 1.72% | 32.76% | 100.00% |
| Jamaican | Population | 45 | 9 | 18 | 24 | 3 | 9 | 21 | 129 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | size | | | | | | | | |
| | % within A. region | 34.88% | 6.98% | 13.95% | 18.60% | 2.33% | 6.98% | 16.28% | 100.00% |
| Kenyan | Population size | 27 | 0 | 6 | 18 | 3 | 3 | 9 | 66 |
| | % within A. region | 40.91% | 0.00% | 9.09% | 27.27% | 4.55% | 4.55% | 13.64% | 100.00% |
| Nigerian | Population size | 54 | 0 | 78 | 21 | 9 | 0 | 27 | 189 |
| | % within A. region | 28.57% | 0.00% | 41.27% | 11.11% | 4.76% | 0.00% | 14.29% | 100.00% |
| Somali | Population size | 486 | 0 | 6 | 3 | 0 | 0 | 78 | 573 |
| | % within A. region | 84.82% | 0.00% | 1.05% | 0.52% | 0.00% | 0.00% | 13.61% | 100.00% |
| Ugandan | Population size | 6 | 0 | 3 | 6 | 0 | 0 | 6 | 21 |
| | % within A. region | 28.57% | 0.00% | 14.29% | 28.57% | 0.00% | 0.00% | 28.57% | 100.00% |
| United States Creole | Population size | 6 | 0 | 0 | 3 | 0 | 0 | 9 | 18 |
| | % within A. region | 33.33% | 0.00% | 0.00% | 16.67% | 0.00% | 0.00% | 50.00% | 100.00% |
| West Indian | Population size | 84 | 9 | 66 | 54 | 6 | 15 | 45 | 279 |
| | % within A. region | 30.11% | 3.23% | 23.66% | 19.35% | 2.15% | 5.38% | 16.13% | 100.00% |
| Total number of Africans | | 2385 | 45 | 834 | 579 | 114 | 60 | 825 | 4842 |
| % of Africans within A. region | | 49.26% | 0.93% | 17.22% | 11.96% | 2.35% | 1.24% | 17.04% | 100.00% |

Source: Census 2006, total ethnicity response

# Appendix 4: Conditions and ICD Codes for PAM, PAH, ASH, Surgical and Maternity Indicators

### Potentially Avoidable Mortality (PAM) indicators and their ICD 10 Codes[86]

| PAM Group categories | Condition description | ICD-10 Diagnosis Codes |
|---|---|---|
| Infections | Pulmonary tuberculosis | A15 |
| | Meningococcal disease | A39 |
| | Pneumococcal disease | J13, A40.3, G00.1 |
| | HIV/AIDS | B20-B24 |
| Cancers | Stomach | C16 |
| | Rectum | C19-C21 |
| | Melanoma | C43 |
| | Female breast | C50 |
| | Cervix | C53 |
| | Testis | C62 |
| | Prostate | C61 |
| | Thyroid | C73 |
| | Bone & cartilage | C40-C41 |
| | Hodgkin's disease | C81 |
| | Acute lymphocytic leukaemia | C91.0 |
| Maternal & newborn | Complications of pregnancy | O01-O99 |
| | Complications of the perinatal period | P02-P94 |
| | Congenital heart disease (subset) | Q21 |
| Chronic disorders | Diabetes | E10-E14 |
| | Valvular heart disease | I01, I05-I09, I33-I37 |
| | Hypertensive diseases | I10-I15 |
| | Coronary disease | I20-I25 |
| | Heart failure | I50 |
| | Cerebrovascular diseases | I60-I69 |
| | Renal failure | N17-N18 |
| | Pulmonary embolism | I26 |
| | COPD | J42 |
| | Asthma | J45-J46 |
| | Peptic ulcer disease | K25-K26 |
| | Cholelithiasis | K80 |
| Injuries | Suicide | X60 –X84 |
| | Road traffic accidents | V01-V79, V87, V89, V99 |
| | Falls (Fracture Neck of Femur) | S72 |
| | Burns | T20-T31 |
| | Adverse health care events (subset) | T80-T88 |

### Potentially Avoidable Hospitalisation (PAH) indicators and their ICD 10 Codes

| PAH Categories | ICD-10 Diagnosis Codes |
|---|---|
| Tuberculosis | A150-A199,B900-B909, M011, P370 |
| HIV /AIDS | B20-B24 |
| Skin cancers | C00, C43, C44 |
| Oral cancers | C01-C06, C09, C10 |
| Colo-rectal cancer | C18-C21 |
| Lung cancer | C33-C34 |
| Breast cancer | C50 |
| Nutrition | D50-D53, E40-E46, E50-E64, M833 |
| Alcohol related conditions | F10, I426, K290, K70 |
| Myocardial infarction | I21-I23;I241 |

| | |
|---|---|
| Other ischaemic heart disease | I240, I248,I249, I25 |
| Gastroenteritis | A01-A09 |
| Other infections | A23, A26, A28, A32, A38, A46, B50-B54, P23, P351, P352, P358, P359, P36, P371-P379 |
| Immunisation preventable - Hib | A413, A492, B9631, B9639, G000 |
| Immunisation preventable - MMR | B05, B06,B26, M014, P350 |
| Immunisation preventable - Whooping cough | A37 |
| Immunisation preventable - Other | A33-A35, A36, A80 |
| Hepatitis and liver cancer | B15-B19, C220, C221, C229, P353 |
| Sexually transmitted diseases | A50-A59,A60, A63, A64, I980, M023, M031, M730, M731, N290, N341, N70-N77, O00 |
| Cervical cancer | C53 |
| Thyroid disease | E00-E05, E890 |
| Diabetes | E10-E14, E162 |
| Dehydration | E86, E870 |
| Epilepsy | G40-G41, O15, R560, R568 |
| ENT infections | H65-H67, H70, J01-J03 |
| Rheumatic fever/heart disease | I00-I09 |
| Hypertensive disease | I10-I15, I674 |
| Angina and chest pain | I20, R072-R074 |
| Congestive heart failure | I50, J81 |
| Stroke | I61, I63-I66 |
| Respiratory infections - Acute bronchiolitis | J21 |
| Respiratory infections - Pneumonia | J13-J16, J18 |
| Respiratory infections - Other | J00, J06, J10-J11, J20 |
| CORD | J40-J44, J47 |
| Asthma | J45-J46 |
| Dental conditions | K00-K06, K08 |
| Peptic ulcer | K25-K28 |
| Ruptured appendix | K350, K351 |
| Obstructed hernia | K400, K401, K403, K404, K410, K411, K413, K414, K420, , K430, K431, K440, K441, K450, K451, K460, K461 |
| Kidney/urinary infection | N10, N12, N136, N390 |
| Cellulitis | H000, H010, H050, J340, K122, L01-L04, L08, L980 |
| Failure to thrive | R62, R633, P923 |
| Gangrene | R02 |
| Meningococcal infection | A39,M010,M030 |
| Legionnaires' disease | A481, A482 |

**Ambulatory sensitive hospitalisation (ASH) indicators and their ICD 10 Codes**

| Condition | ICD 10 Codes | Age group | ASH Weight |
|---|---|---|---|
| Angina and chest pain | I20, R072-R074 | A | 0.5 |
| Asthma | J45-J46 | B | 1 |
| Bronchiectasis | J47 | C | 1 |
| Cellulitis | H000, H010, J340, L01-L04, L08, L980 | B | 1 |
| Cervical cancer | C53 | A | 1 |
| Congestive heart failure | I50, J81 | A | 1 |
| Constipation | K590 | B | 1 |
| Dental conditions | K02, K04, K05 | B | 1 |
| Dermatitis & eczema | L20-L30 | B | 1 |
| Diabetes | E10-E14, E162 | A | 1 |

| | | | |
|---|---|---|---|
| Epilepsy | G40-G41, O15, R560, R568 | A | 1 |
| Gastroenteritis/dehydration | A02-A09, R11 | B | 1 |
| GORD (Gastro-oesophageal reflux disease) | K21 | B | 1 |
| Hypertensive disease | I10-I15, I674 | A | 1 |
| Kidney/urinary infection | N10, N12, N136, N309, N390 | F | 1 |
| Myocardial infarction | I21-I23; I241 | A | 0.5 |
| Nutrition Deficiency and Anaemia | D50-D53, E40-E46, E50-E64, M833* | B | 1 |
| Other ischaemic heart disease | I240, I248,I249, I25 | A | 0.5 |
| Peptic ulcer | K25-K28 | A | 1 |
| Respiratory infections - Pneumonia | J13-J16, J18 | B | 1 |
| Rheumatic fever/heart disease | I00-I02,I05-I09 | B | 1 |
| Sexually transmitted Infections | A50-A59,A60, A63, A64, I980, M023, M031, M730, M731, N290, N341 | A | 1 |
| Stroke | I61, I63-I66 | A | 0.5 |
| Upper respiratory tract and ENT infections | J00-J04, J06, H65-H67 | B | 1 |
| Vaccine-preventable disease - Meningitis, Whooping Cough, Hep B, Pneumococcal disease, Other | A33-A37, A403, A80, B16, B18 | D | 1 |
| Vaccine-preventable disease - MMR | B05, B06,B26, M014, P350** | E | 1 |

**Age Group**
**A >= 15 yrs**
**B all ages**
**C < 15 yrs**
**6mth <= D < 15 yr**
**15mth <= E < 15 yr**
**F >= 5 yrs**

### Surgical Indicators and ICD 10 codes

| Indicators | ICD-10 Procedure Codes |
|---|---|
| Angioplasty | 3531001, 3531002360 excl 3530400, 3530500, 3531000, 3531001, 3531002 |
| Coronary artery bypass graft (CABG) | 3849700 - 7, 3850000 - 4, 3850300 - 4, 3863700, 9020100 - 3 |
| Total Hip Joint Replacement | 4931800, 4931900, 4932400, 4932700, 4933000, 4933300, 4934500 |
| Total Knee Joint Replacement | 4951800, 4951900, 4952100 - 3, 4952400 - 1, 4952700, 495300-1, 4953300, 4953400, 4955400 |
| Cholecystectomy | 3044300, 3044500, 3044600, 3044800, 3044900, 3045401, 3045500 |
| Cataract extraction | 4269800 - 5, 4270100 - 1, 4270200 – 211, 4270300, 4270400 – 1, 4270700, 4278800, 4279102 |
| Prostatectomy | 3683901 – 4, 3684200, 3700804, 3720000 – 6, 3720300 – 2, 3720700– 1, 3720900 |
| Hysterectomy | 3565300 - 3, 3565700, 3566100, 3566400 - 1, 3566700- 1, 3567000, 3567300 -1, 3575000, 3575300-1, 3575600 - 2 |

### Maternity Indicators and ICD 10 codes

| Indicators | ICD-10 Procedure Codes |
|---|---|
| Assisted delivery | 9046800 – 4, 9046900, 9047001 - 4 |
| Forceps delivery | 9046800 – 4, 9046900, 9047001- 4 |
| Caesarean sections | 1652000 – 3 |

# Appendix 5: New Zealand Health Tracker project data

| **Diabetes data** | |
|---|---|
| Definition: | Denotes whether the person showed any indication of having diabetes, as recorded in national health information systems. |
| Source: | Derived from the National Minimum Dataset, Pharmaceutical Collection, National Non-Admitted Patient Collection, Laboratory Claims.<br><br>A person is counted as having showed an indication of diabetes if they meet **at least one** the conditions specified below (from any data collection) within the time periods searched:<br><br>**National Minimum Dataset (NMDS) codes:**<br>One of the following codes:<br>▪ ICD 9: 250 (diabetes codes);<br>▪ ICD 10: E10-E14 (diabetes codes), O24.0 to O24.3 (referring to pre-existing diabetes in pregnancy) *but* not ICD 10: O24.4 (diabetes arising from pregnancy).<br><br>**Pharmaceutical Collection:**<br>▪ 2 or more diabetes-related pharmaceutical dispensing: including all subsidised forms of insulin, and oral hypoglycaemic<br><br>**National Non-Admitted Patient Collection (NNPAC):**<br>▪ Attended diabetes clinic: Purchase unit M20004 to M2007 and MAOR0106<br><br>**Laboratory Claims:**<br>▪ Four or more Hba1c testing undertaken for an individual between 1 July 2006 and 30 June 2008 |

| **Cardiovascular disease (CVD) data** | |
|---|---|
| Definition: | Denotes whether the person showed any indication of having CVD, as recorded in national health information systems. |
| Source: | Derived from the National Minimum Dataset and the Pharmaceutical Collection.<br><br>A person is counted as having showed an indication of CVD (including codes for coronary heart disease, ischaemic stroke, peripheral vascular disease, congestive heart failure, hypertensive heart disease, atrial fibrillation, and ventricular fibrillation) if they meet **at least one** the conditions specified below (from any data collection) within the time periods searched:<br><br>**National Minimum Dataset (NMDS) codes:**<br>One of the following codes:<br>▪ ICD 9 diagnosis codes: 250.7, 250.71, 250.72, 250.73, 290.4, 401, 402, 404, 410-414, 427.3,427.4, 427.5, 428, 428.1, 428.9, 429.2, 433, 434, 435, 436, 437, 437.1, 437.3, 437.8, 437.9,438, 440.1, 440.2, 440.21, 440.22, 440.23, 440.24, 440.29, 440.3, 440.31, 440.32, 441, 442,443.9<br>▪ ICD 9 procedure codes: 360, 361, 362, 380, 381, 3922, 3924, 3925, 3926, 3928.<br>▪ ICD 10 diagnosis codes: E1050, E1051, E1052, E1053, E1059, E1150, E1151, E1152, E1153,E1159, E1450, E1451, E1452, E1453, E1459, F011, G45 (except G453), G46, I10, I110, I119,I130, I132, I139, I20 to I25, I46, I461, I48, I490, |

| | |
|---|---|
| | I50, I500, I501, I516, I63, I64, I65, I66,I670, I671, I672, I679, I679, I693, I694, I698, I700, I701, I7020, I7021, I708, I709, I71, I72,I739, I74, R96,R98.<br>▪ ICD 10 procedure codes: 3270000-3276318, 3300000-3318100, 3350000-3355400, 3380000-3380612, 3530400-3530501, 3531000-3531005, 3531200-3531501, 3845619, 3849700-3850304, 3850500, 3855000-3857101, 3857200, 3863700, 3865308, 3870600, 3870601,3871200, 9020100-9020103, 9022900, 9023000.<br><br>**Pharmaceutical Collection:**<br>▪ 2 or more CVD-related pharmaceutical dispensing: glyceryl trinitrate, isosorbide dinitrate, isosorbide mononitrate, nicorandil, and perhexiline. |

**Additional notes:**

- Socioeconomic status was measured using the NZDep2001 index of deprivation by quintile at the census area unit level.
- The prevalence proportions were separated into 5-year age groups for direct age standardisation using the World Health Organization (WHO) World population as the standard.
- The prevalence estimates for this HNA doe not exclude all the deaths identified by the mortality collection.
- Age-specific prevalence was calculated using a 2006/07 population derived from national collections and NHI. The study population required a person to:
  - Have an NHI;
  - Be listed as a New Zealand resident on the NHI;
  - Have had a health service contact (e.g. GP consult, public or private hospital admission, or mental health services use) or currently enrolled with a primary health organisation (PHO) in the 12-month period (July 2006 to June 2007); and
  - Not be registered as deceased prior to 1 July 2007.
- All data was made available by Craig Wright (Senior Advisor), Health and Disability Intelligence Unit, Ministry of Health.

# Appendix 6: Interview prompts and list of interviewees

## Semi-structured interview prompts

1. Tell me about your experiences working with MELAA patients in your service
2. Do you think they need more support than other groups? In what way?
3. What are the health priority issues for MELAA?
4. What is the range of health services you/your organisation provides to MELAA? (if relevant)
5. Do you have any examples of health services that aren't working so well – why?
6. Do you have any examples of health services that are working well – why?
7. What (if any) gaps in health service exist?
8. What could be done to reduce these gaps?
9. Do you have any thoughts on barriers to use of health services?
10. Do you have any thoughts on interventions that facilitate their use of health services?
11. Other comments?

## List of interviewees

| | Name | Role | Organisation |
|---|---|---|---|
| 1 | Dr Mark Thomas | Medical Consultant (Infectious Diseases ) | Department of Infectious Diseases, ADHB. |
| 2 | Madeleine Sands | Team Leader (Child Development) | Community Child Health and Disability Services, ADHB. |
| 3 | Monica Haworth | School Nurse | Mt Albert Grammar School. |
| 4 | Irene Chain | Independent midwife | Swan Midwives, Mount Roskill. |
| 5 | Nagiba Mohamed | Plunket educator | Auckland Branch, Plunket NZ. |
| 6 | Dr Ronald Jones | Gynaecologist | Gynaecology services, ADHB. |
| 7 | Faieza Ali | Diabetes Nurse Specialist | Diabetes Services, ADHB. |
| 8 | Dr Alia Al-Rubyee | General Practitioner | New Al-Dawa Medical Centre, Mount Roskill. |
| 9 | Wendy Gadsden | Community Midwife | Obstetrics Services, ADHB. |
| 10 | Dr S Gonsalves | General Practitioner | Mt .Roskill Medical Centre, Mount Roskill. |
| 11 | Nikki Denholm | Health Promoter and educator | FGM Education Programme, Exposure Media. |

# Appendix: Stock take of services relevant to Middle Eastern, Latin American and African people in Auckland

| Provider | Service/Activity/Programme | Intended Group(s) | Service Location | Timeframe | Type of service |
|---|---|---|---|---|---|
| NDSA | Auckland Regional Settlement Strategy, Migrant and Refugee Health Action Plan | MELAA | Auckland region | Ongoing | Project management and regional co-ordination |
| NZAF | African HIV Prevention Programme | African groups | National | Ongoing | Health promotion |
| RASNZ | Refugees As Survivors New Zealand | All refugee groups | Auckland region | Ongoing | Mental health |
| ARPHS | Regional Refugee Health Promotion Team | All refugee groups | ADHB Area | Ongoing | Health promotion |
| ARPHS | National screening service for quota refugees and asylum seekers on arrival at Mangere refugee resettlement centre (MRRC) | All refugee groups | National | Ongoing | Physical and mental health screening |
| ARPHS | Providing a variety of translated resources through Refugee Health Website (www.refugeehealth.govt.nz) | All refugee groups | Auckland region | Ongoing | Refugee health education and information |
| Refugee Services Aotearoa NZ | Refugee Resettlement: Service Provision | All refugee groups | Auckland region | Ongoing | Settlement support services |
| RASNZ | RASNZ Health Promotion and Community Development Team | All refugee groups | Auckland region | Ongoing | Health promotion, health education |
| ProCare Health Ltd | Muslim Women's Swimming Programme | Refugee, migrant, Asian, ME, African | Auckland region | Ongoing | Physical activity programme |
| Umma Trust | Social services for women and children | Refugee, migrant, Asian, ME, African | Auckland region | Ongoing | Support Services |
| WDHB, ADHB, CMDHB. | CALD Cross Cultural Competency Training Programmes for primary and secondary health workforce | All CALD groups | Auckland region | Ongoing | Workforce development |
| ADHB | Community Mental Health Services: Transcultural Mental Health Services TCMHS) | Refugee, migrant, Asian, MELAA | ADHB Area | Ongoing | Mental Health |
| FGM Education Programme | FGM Education Service | People from countries that practise FGM (especially African groups) | National | Ongoing | Provider training and support, community education and health promotion |

This list is taken from an internal document prepared for the Auckland DHB(87).

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